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ORIGINAL ARTICLES.

PRELIMINARY OBSERVATIONS ON THE BACTERIA IN ICE FROM LAKE MENDOTA, MADISON, WIS.

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DURING the winter of '88 and '89 experiments were conducted in the Bacteriological Laboratory of the University of Wisconsin to test the purity of the ice-supply used in the city of Madison, and also to repeat some observations, which had been made by previous observers, concerning bacteria in ice. The importance of the bacterial analysis of water has been well recognized, by the amount of care and attention which has been bestowed upon it. In the investigations carried on by the different boards of health, the biological as well as the chemical analyses are made to aid each other in determining the potability of water. Less labor has been bestowed upon ice; yet it is no less important. Ice has now come to be used in so many different ways that it is as necessary we should be supplied with that which is as pure as possible, as it is that our water-supply should be pure and wholesome. Our water-supply might be ever so good, but if we introduce into it an impure ice we run a risk as great as if the water itself was contaminated.

The popular notion, that water entirely purifies itself in freezing, not only with respect to its dead organic matter, but also as regards its living animal and vegetable forms, has been proved to be fallacious so many times, that it would seem to be a waste of time to recount the methods and results involved.

The problems connected with biological analysis are often many and difficult. Beside the extreme care which must be maintained throughout the whole work, the results obtained must be interpreted in a proper manner before they become of any practical value. To the popular mind, the word bacteria is closely associated with the idea of disease, so that when we find large numbers of these organisms in water we naturally look upon it with suspicion, but such is not necessarily the case. By far the larger majority of these microbes which we find in the earth, air, and water are perfectly harmless. They are saprophytes rather than parasites.

In water we find a group of these bacteria which are apparently indigenous to this medium. They grow and thrive better here than in any other culture. These "water bacteria," as they are called, play no *rôle*, as far as is known, in producing disease. In addition to these innocuous forms there are numbers of species of pathogenic germs, which are able to thrive, or, at least, exist, in water for a considerable time. The testimony of various observers is quite contradictory as to their ability to grow, especially in reference to the specific germs which cause cholera, typhoid, and anthrax. But the tracing of numerous epidemics of some of these diseases to contamination from water shows that great care should be taken in determining whether the water-supply affords any opportunity for the transmission of disease germs. The most common way for the introduction of these germs into the water systems of cities is where the supply is in any way subject to sewage contamination. This is particularly dangerous, as examination of water at any particular time may fail to reveal the specific germ of the disease, but the occurrence of one or two cases and the emptying of any dejecta, or any other contaminated material, into the sewer system may be sufficient to contaminate what before might have been regarded, by analysis, as pure water.

The water-supply of this city, being derived from deep artesian wells, affords very little chance for contamination. Examinations made from samples taken from delivery faucets of the water mains of the city gave on an average less than thirty germs per c.c., and all of them recognizable as harmless water forms. But in the case of our ice-supply, at first sight, safety is not so assured. The supply which is used in the city and that which is largely shipped to surrounding towns throughout the State, are taken from Lakes Monona and Mendota. From Mendota is taken the ice used for home consumption, and from this source was obtained all the samples which were examined. This lake is about six miles long, by four or five broad, and in many places is about one hundred feet deep. Monona is considerably smaller and much shallower. These two lakes receive all the filth and waste of a city of thirteen thousand inhabitants, Mendota receiving in addition the sewage material from the Wisconsin State Hospital for Insane.

The ice-supply of the city was subjected to quite an exhaustive analysis, to see if it was in any way subject to sewage contamination, and also to investigate several other problems in connection with bac-

teria in their relation to ice. Our inability to determine, ordinarily, whether bacteria in ice or water are pathogenic or not, would make a rule based on the numerical content of the water important, if such could be the case; but unfortunately this we cannot do with any degree of safety. Fränkel states that water containing more than fifty germs per c.c. should be subjected to some process of filtration;[1] but this is purely an arbitrary rule. A sample of water might contain only a few germs in which pathogenic germs were abundant, yet this water would be manifestly more dangerous than one which might contain a far greater number of the ordinary water forms. However, in the absence of a numerical rule we have still a method that may indicate the sought-for result. Where we find two or three, or, at most, only a comparatively few species of germs, we may quite safely assert that the water is practically free from sewage; but where a large number of different species are present it shows the possibility of contamination by foreign ingredients. The prevalent water bacteria are so universally present that most of them can be identified with comparative ease.

The observations upon ice were conducted in the following manner: From the interior of a large block of ice were taken several small pieces, which were washed in a stream of hot water, the temperature of which varied from 75° to 90° C., then rinsed in distilled water and placed in sterilized chambers. The ice was then melted, and before it was completely melted samples of it were drawn off by sterilized pipettes and mixed with meat-peptone gelatine and prepared according to Koch's well-known method. Three or four plates were made from each sample, so as to get the average of as many as possible. The plates were counted after two or three days' growth. No definite time could be taken, on account of the variation in rapidity of growth of colonies. They were allowed to grow as long as possible, the development of the liquefying colonies being checked by the addition of a drop of ferric chloride. It was found, by diluting some of the plates considerably with sterilized distilled water, and counting them daily from the first appearance of the colonies until they could no longer be separated, that the number of colonies increased about ten per cent. a day for three or four days. This makes quite a difference in the number of germs present and is probably caused by the wide variation in age and vitality of the germs.

Comparisons between lake water and freshly frozen ice.—Comparisons were made with the view of determining how much the bacterial content of the water was diminished by freezing. The ice used in the experiment came, in all cases, from the lowest layer, which was formed after February 18th. About this time a large body of ice was removed for the ice houses, and on this date came on a cold spell which lasted for quite a number of days, so that the ice was formed very quickly, and was very clear and transparent. Samples of ice used for this experiment were in no case frozen for more than five or six days. The aggregate results of this comparison are only indicated here:

Twenty-seven samples from lake water averaged 683⅔ germs per c.c.; thirty-five samples from freshly frozen ice averaged 270⅓ germs per c.c. The average number of germs per c.c. for each set of plates varied, in the case of ice, from 14 to 1249; in the case of water, from 3 to 3167.

According to these figures, only about sixty per cent. of the bacterial content was lost by freezing. Prudden claims that ninety per cent. are thus destroyed.[1] Fränkel has shown, however, that while in some cases the loss may reach as high as ninety per cent., ordinarily it is much less.[2] The variation in number of germs which occurs in different strata of the water is probably the cause of this wide variation, and the fact that different species are differently affected by freezing, makes the relation difficult to determine, except for each case.

Snow ice versus clear ice.—The popular belief is held that snow ice contains more impurities than transparent ice. This is, no doubt, due to the fact that we can detect any visible impurities much sooner in clear ice than in an opaque block. To see if this popular notion rested upon any basis of truth, experiments were made with snow and clear, transparent ice. One might quite naturally expect to find the snow layer well filled with air bacteria, as well as water forms which have welled up through the cracks in the ice, but such in our experiments was not the case.

Cultures made from freshly fallen snow, and from that which had lain on the ground for a considerable length of time, almost always contained quite a number of species of bacteria, while the snow ice, as a rule, contained only those species which were found in clear ice. This fact shows that air bacteria do not stand freezing in water as well as the indigenous water forms. Quite a large number of comparisons were made between clear, transparent ice and snow ice.

The following table indicates only in a general way the results obtained. The percentages give a fairer estimate for comparison than the figures themselves, but the evidence is not so overwhelming on either side as to settle the question decidedly.

[1] Arch. f. Hyg, Bd. i. S. 302.

[1] Med. Record, vol. xxxi. p. 344.
Zeit. f. Hyg., Bd. i. S. 308.

TABLE SHOWING RELATION BETWEEN

Clear Ice, 114 samples.	Snow Ice, 39 samples.
No. of germs per c. c	No. of germs per c. c.
Less than 10 . . . 15 per c	
Between 10 and 50 32.5 "	
" 50 " 100 10+ "	
" 100 " 200 12+ "	Less than 100 . . . 36 per ct.
" 200 " 1000 13+ "	Between 100 and 200 20 "
" 1000 " 5000 7+ "	" 200 " 1000 36 "
5000 and upward 9 "	" 1000 " 5000 5 "
	5000 and upward 2½ "

The local variation of the number of germs detracts from the value of these observations, but where as large a number of samples are taken as were secured in the above case, this element of error ought to be largely diminished. To overcome this as much as possible, samples were taken from contiguous parts of the same block with the following results:

TABLE SHOWING RELATIVE NUMBER OF BACTERIA PER C. C. FROM ADJACENT PORTIONS OF SAME BLOCK.

Snow Ice, 18 samples.	Transparent Ice, 17 samples.
31	192
497	14
115	80
395	6924

Numbers given are the total averages made per c.c. from each set of plates.

Numbers on horizontal line indicate the number found in adjacent portions of the same block.

Here we have as favorable conditions as it is possible to secure, and yet we can establish no definite relation. This variation, and particularly an excessive number, which is occasionally found, is due to the collecting of certain forms into gelatinous zoöglœæ, which dissolve with difficulty in water. Only by thorough shaking of the melted gelatine, with which the water is mixed, can this mass be separated, and the individual germs develop as single colonies in place of one large colony.

Influence of continued freezing upon bacteria.—Comparisons between the upper and lower surfaces of clear ice were made to see if any definite difference existed between ice which had been frozen for a longer period of time and ice just formed. Only samples taken from the upper and lower surfaces of the same block were used for this experiment.

TABLE SHOWING NUMBER OF GERMS PER C. C. IN CLEAR ICE.

From bottom, 32 samples.	From surface, 32 samples.
20	80
355	54
1249	618
71	163
13	10
14	9
141	763
Total aver. per c. c. 266	244

The conditions under which this ice was secured were such that the date of formation could be definitely ascertained, and all samples used were very clear and transparent. If continued freezing acts detrimentally on the bacteria incased in the ice, then the analyses of the upper layers of the ice, taken at different stages of the season, should show a slow but steady diminution in their germ contents. The following table indicates the number of germs per c.c. found in a clear, transparent layer just beneath the surface. The ice was frozen February 18th, and cultures were made from February 23d till March 14th, at varying intervals.

TABLE SHOWING NUMBER OF GERMS PER C. C. FOUND IN SAMPLES OF ICE THAT WERE FROZEN FOR DIFFERENT PERIODS.

	Number per c. c.	Days frozen.
February 23	95	5
March 1	763	11
" 2	20	12
" 8	7	18
" 11	149	21
" 12	10	22
" 14	40	24

Here again the results are so contradictory as to show that by analysis of natural ice no definite proportion can be established. The only way possible to secure definite results is to freeze water containing a known number of bacteria; yet, in this way the objection can be well urged, that we are not complying with natural conditions. If we take a fresh culture of some specific germ, and dilute it, and then freeze it, we will have the vitality of the individual cells much more nearly equal than exists in nature, even within the limits of a species, not to say a number of species.

Influence of freezing on different species of water bacteria.—With the two forms which were the most common in water and in ice, one of which is non-liquefying and the other a liquefying bacillus, the following observations were noted to see which was affected the most by freezing. Only the proportions existing between these two forms are given in the table.

PROPORTION EXISTING BETWEEN THE TWO SPECIES IN WATER WAS			IN ICE WAS		
Non-liquefying bacillus.		Liquefying bacillus.	Non-liquefying bacillus.		Liquefying bacillus.
⅝	:	1	3.5	:	1
13	:	1	9	:	1
8	:	1	7.5	:	1
30	:	1	3.2	:	1
7.5	:	1	1.5	:	1
13.5	:	1	5.6	:	1
100	:	1	2.5	:	1
			18	:	1
			13	:	1
26		1	7		1

In every case but one the number of non-liquefying germs was greater than the liquefiers, and it was found that the proportion between the two species was much less before freezing than after.

Bacteria in snow.—In order to see if the bacteria of snow were similar to those found in ice, cultures were made from snow at different times. The number of species found in snow always exceeded the number found in ice, but the number of germs was generally much less, unless snow was taken which had lain quite a while upon the ground.

Samples were also taken from snow collected about six hours after the storm had begun, and also at its close, after twelve hours' duration.

Number of germs per c.c. (eight samples):

After 6 hours' duration . . . 6, 12, 3, 6; average, 7.
" 12 " " . . . 4, 6, 2, 0; " 3.

This indicates that the snow purifies the air of its germs to a large extent, and that at the close of a long storm the atmosphere may be practically devoid of germs.[1] These experiments were conducted in the neighborhood of inhabited buildings, so that the meagreness of germs is still more striking. No regular increase was found in old snow, although, as a rule, it contained a larger number of germs than did freshly fallen snow. In the cultures from snow a large number of moulds and oïdiums also developed, showing that these germs are very prevalent even in our winter air. Only occasionally did germs of this kind develop in cultures made from ice or water.

Relation to disease.—In the analysis of any considerable number of samples of ice one would naturally expect to find quite a large number of species present, but in these analyses such was not the case. By far the larger number of germs found were included in three species, and two of these furnished the major portion of the whole number. This applied not only to analyses made from Madison ice, but from ice taken from several different places throughout the State. Occasionally other saprophytic forms were found, but in only a few cases were any germs found that could be suspected of sewage origin. The colonies found in these cases were identical with those isolated from ice from the Milwaukee River, at Milwaukee, Wis., where it was known to be contaminated with sewage. This form was not pathogenic in its characteristics, but it shows a possibility of sewage contamination, and where such is the case safety is not absolute. As long as typhoid cases are unknown we might not suffer any danger from the use of this ice, but the introduction of contaminated material from one or two cases might be sufficient to produce the disease in an epidemic form. The two or three most prevalent forms were worked out and grown in various culture media. Their physiological characteristics, as far as they were tried, did not give any results indicative of pathogenic qualities. Their characteristics upon various culture media are not detailed here, as they probably belong to some described species, although they were not identified.

Briefly summing up the results which were obtained, they may be stated as follows:

1. No evidence of any species of pathogenic germs were found, although slight evidences of sewage contamination were present. Our inability to distinguish pathogenic from non-pathogenic germs, except by special differential cultures, leads us to lay considerable stress upon sewage contamination. Where traces of this are present, danger to a greater or less degree exists. The comparative absence of typhoid cases in this city for the past season would have made a special search for the specific germ probably fruitless. All the different forms isolated during the progress of the experiments were investigated with this point in view, but none of them yielded any results indicating the presence of the typhoid germ in the ice.

2. In testing the effect of freezing upon bacteria no very accurate relation is possible to be made. From the sixty-two cultures made for this experiment it was found that the bacteria in ice had decreased about sixty per cent. as compared with the number found in the water. This proportion is not constant and may range somewhat higher. In a general way it might be stated that from fifty to ninety-five per cent. of the germs present in the water are destroyed by freezing. The influence of continued freezing of the germs cannot be determined by analysis of natural ice. The variation in the number of germs present in different parts of the same block is so great that it is practically impossible to establish any relation between them. Even pieces of ice taken from the same block at the distance of only a few centimetres apart gave widely differing numbers of germs. This element of error is so large that it practically eliminates the use of natural ice for the determination of any of these problems, unless a very great number of observations are made. Of the two most prevalent forms found in either ice or water, the non-liquefying bacillus suffers much greater loss by freezing than the liquefying species.

3. To determine a proportion between snow and transparent ice, as regards their bacterial content, over one hundred and fifty analyses were made. It was found that the transparent ice, as a rule, contained less than the snow ice, but a larger number of germs per c.c. were found in clear, transparent ice in several cases than was found in any sample of snow ice. Here again this local variation prevents

[1] To prove this conclusively one would have to resort to analyses of air to determine the number of germs present in the air itself after the storm.

any relation being established between these two kinds of ice.

4. A number of different forms of bacteria were isolated from snow, in addition to several different species of moulds and oïdiums. The number of germs found was quite small, there being the least number present in snow which was collected at the close of a continued storm. Snow which had lain upon the ground for a length of time yielded a large number. These were deposited upon the snow from the air.

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THE PSYCHOLOGICAL FACTOR IN SELECTING A CLIMATE FOR INVALIDS.[1]

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"THERE is between the condition of the mind and that of the body," says a modern novelist, "an inter-dependence which cannot but be recognized by every physician." Recognize this fact we do, but I am inclined to think that we give less practical weight to it in our treatment of disease than we ought or might with profit to our patients. To adapt best the remedy, be it climatic or medicinal, to the case in hand, the psychological side of the question, as well as the physiological and pathological, must have its due consideration. Mental influences produce an infinite variety of bodily effects, from an anorexia to a *de novo* phthisis, insanity, or death even. In such a serious matter, then, as a change of climate for a less or a greater period, involving frequently a breaking-up of social and family ties, much more careful attention, it seems to me, should be given to the mental peculiarities and bias of the patient than often, apparently, seems to be the case.

If the *sana mens in sano corpore* is capable of infinite variations, how much more marked are the vagaries of the mind disturbed from its equipoise by the perturbing influences of bodily disease. How often this is illustrated in phthisis we all know. Peculiarities hardly noticeable in health are exaggerated in disease. Every person when sick is more or less of a child, as most of us from personal experience have realized, often to our surprise and chagrin. From a psychological point of view, then, we ought, it seems to me, to consider various factors when a change of climate is contemplated for an invalid, whatever the malady may be. In a general way they are these: *First.* The temperament or mental disposition. Is the patient naturally buoyant and happy, or, on the contrary, often depressed and inclined to take a Mantilinian view of life? *Second.* Previous habits and mode of life. Has the patient been active, fond of society, used to much excitement and frequent change; or lived a quiet, equable life, like the peaceful one of the country? *Third.* The amount of physical activity to which the patient has been accustomed. Has he led more or less of an outdoor life; does he have a fad in shooting, fishing, and the like; or is he of sedentary habits, devoted to books, art, or what not? *Fourth.* The matter of domestic ties. In the contemplated change will the invalid be compelled to sever close ties of relationship—a wife to be separated from her husband, a child from its parents, a mother from her children, etc.? *Fifth.* Is the patient to be placed in an environment of invalidism, where he will have his malady suggested to him continually, by seeing others sick and dying with it about him? *Sixth.* The age of the individual.

That it is important to consider all these elements, in selecting a climate for those patients whom we advise to change their skies, is obvious enough, I think; for that climate is the ideal one for the case in hand which best is adapted to his especial needs and conditions, even if it does not possess all the elements of an intrinsically ideal climate. Better a little less altitude and an agreeable environment; or more moisture, with an opportunity of indulging in one's pet hobby; provided always that the point yielded in the climatic conditions is counterbalanced by the point gained in mental contentment.

An analysis of that bundle of peculiarities which constitutes what we call one's temperament is no easy matter, and still, it seems that it ought to have careful study when a change of climate is under advisement. Here, for instance, is an individual who is a veritable melancholy Jaques, always thinking that the days are waxing evil and he with them, who has a "melancholy of his own, compounded of many simples, extracted from many objects." In ordinary health it requires the combined efforts of his friends and family to keep him in tolerable spirits. Once let him fall sick and he apprehends a speedy dissolution. Such a man is an unfortunate patient to deal with under any circumstances. When the matter, however, of climate comes up we should rather send him to a place of varied interests and attractions to divert and amuse him as much as possible, than to a Colorado ranche or an Adirondack village in winter. Another person, on the contrary, possesses one of those happy, sunny dispositions capable of extracting pleasure from all the little incidents of daily life. Such a one will content himself almost anywhere; and to whatsoever climate you decree him, there he will find a tolerable amount of contentment and happiness. When once he has conquered his nostalgia, you can venture to send him to such places as you would not dare to suggest to the former man.

Between these two extremes we have every variety of disposition or mental attitude, either natural or as

[1] Read before the American Climatological Society, June 24, 1889.

a result of the malady. Of course, it is a delicate question and one requiring much consideration how much weight we should give to this factor in our decision. The nervous, excitable person is often best consigned to a quiet, restful place, and the contrary is often best for one of phlegmatic nature, for to give him an interest in something may be the most important step toward his recovery.

One's natural disposition, to a great extent, shapes his way of life and determines his habits. Environment and intercurrent circumstances, however, are important elements, as we know, in the matter. We have only to consider, however, the mode of life as it exists when the patient comes to us, and to settle the amount of its influence in determining the kind of place and climate best for him. We are all creatures of habit, and so strongly and firmly bound by it, and yet so unconsciously, that we only realize it when we attempt to change or break the chain. Take the most familiar illustration, a business man accustomed for years to a daily routine in a city. Resources outside of his business he may have few or none—no hobby or favorite outdoor amusement. Send him away to a lonely place, or to any place, indeed, and he is wretched, the habit of his life is broken, and he realizes how strongly he was bound by it. If, however, it is possible to place him in a sufficiently favorable climate for his disease, and at the same time allow him to continue to some extent in the way of his former life—if, also, the malady permits it—for instance, sending a phthisical merchant to Denver, El Paso, Los Angeles, or where you please, and there indulge him in the semblance at least of following his former occupation, then, it seems to me, we supplement greatly the beneficial effects of the climate by the contentment of mind the continuance of his former habits of life gives.

Or, again, take a young woman, city bred and accustomed to much variety of life in the way of amusements and social diversion. It may be the wisest plan to send her to a place with an environment the reverse of all this, where the life is the simplest and most peaceful conceivable, like that of a western ranch or a small southern village. Assuredly it will be if she is suffering from neurasthenia. It may be, however, that to continue a limited amount of the old excitement, if I may so term it, may keep her in better mental equipoise than suddenly cutting it all off. Denver, St. Augustine, Fortress Monroe, Cairo, the Riviera, may be more curative for her than the quiet, isolated life of a mountain hamlet or a New Mexico ranch.

The tastes of a patient play a not insignificant *rôle* in his physical condition and well-being, and a disregard of them may vitiate the good results hoped for by the climatic change. Here, for example, is a person devoted to music; it may be that this very devotion is the cause of the phthisis or neurasthenia. Deprive him, however, of all opportunity of hearing a sonata or a symphony now and then, and he is wretched. Send him, on the contrary, to a resort like Colorado Springs, for instance, where he can gratify his taste occasionally, and in addition allow him his piano, with proper restrictions, and he will be happy, and far more readily and quickly adapt himself to the new and changed conditions.

Or, another is a botanist *con amore*. For him a place with a large and varied flora, such, for instance, as some portion of the Rocky Mountains or Southern California, will be more attractive and consequently more beneficial than a sea voyage or Davos. And so, in brief, by studying the tastes and inclinations of the invalid to be exiled, as good a climate may be chosen and in addition a point gained by the greater contentment the favorite occupation or amusement affords.

Here I will digress long enough to say that for these reasons, as well as others more directly climatic, it seems to me that it is of the greatest advantage for the physician, who frequently has to advise his patients where to go for a different climate, to have visited as many of the resorts as possible. He may not, probably will not, remain long enough to make any extended study of the climate itself. This has generally been done by the resident physicians, but he will—which will be of great value to himself and his clients—have found out the resources of the place, its attractions, amusements, the class of people his patients will be thrown with, and all the little data and detail as important in their way as the purely climatic side of the question.

The matter of length of residence in the climate selected depends on many considerations, principally on the kind, character, and extent of the disease. I shall only touch upon this subject here in so far as it relates to the psychological element involved. In maintaining a healthy mental equilibrium, so far as this is possible with an invalid, the diversion of change is a powerful factor. Some physician has said—I have forgotten who, that the invalid should change his residence every month, and there is much of truth in the saying. Now, within the area of prescribed climate a frequent change can often be attained. For instance, a patient who has had selected for him the climate of eastern Colorado, can change Colorado Springs for Santa Fé for a little time in the winter, and in the summer go up to the Estes Park or some of the many other mountain resorts, breathing all the time the same kind of air. Or, again, one who has had prescribed for him a mild sea air may vary the localities where he finds it. St. Augustine, Fortress Monroe, Santa Barbara, or a sea

voyage about the West Indies, all afford him his specific climate with the diversion of change and variety of scene. Moreover, these changes can frequently be made within a limited area, and with no great exhaustion from lengthy journeys, or large expense.

The manner of life as to physical activity is another and important factor, looked at from a psychological standpoint, in the selection of a place for one's patient from amongst those climatically proper for the case in hand. Some individuals will be active as long as the breath of life remains in them, and when wisely regulated, and excess is restrained, it is often better that they should continue to be so, even in their invalid state. Better let a mountain climber or a fisherman take some risk and climb and fish a little, than to wear out his life in desponding *ennui*. I recall the case of a poor fellow with advanced phthisis whose hollow cough kept the ranch awake at Estes Park, and who would still persist in his favorite amusement of trout-fishing whenever he was able to drag his emaciated form to the streams. When I left the Park I expected that a few weeks would see the end of him. What was my surprise to learn that he was still fishing there the following summer, and I trust that he is still somewhere whipping the brooks and so prolonging, not altogether unhappily, his precarious existence.

Those, on the contrary, accustomed to sedentary habits, as so many women are, and not a few men, it is more difficult to indulge safely in their proclivities; for a change of climate, for whatever disease, requires a more active life generally than the one they have been leading; nature, however, reasserting herself, aids us in this, for, in the natural state, man, like most other animals, is an active creature, and it is only the artificial caging that contravenes nature's law. While, then, the old order is changing, reverting to the normal, we can temporize a little to the benefit of the mental state by allowing something of the old life to continue, changing, if we can, the method and manner of it.

For instance, we can send a man given to historical research, and who spends much of his time in his library, to Santa Fé or to the old mission towns of Southern California, where he can investigate the bygone history of these old places, rich in the fascinating tales of Indian missions and self-denying padres. Naturally, in doing this he will be much out of doors and more or less active. So you gradually change his previous mode of life and indulge his mental inclinations.

Or, again, it is a woman who has too assiduously devoted herself to charitable work. Her work has become almost her life, and to separate her from it entirely is to destroy her aim and object in life. If she goes to Aiken, let her gather a class of colored people about her to teach a little, or visit them in their cabins à la friendly visitor. Or if to New Mexico, let her look up the Indians. So, again, you keep alive hope and interest in life, which, in its turn, keeps alive the body.

The separation of families and of intimate friends for a considerable period of time is a serious obstacle to the kindly influences of a healing climate. In cases where the social and family ties are of the closest, and the dependence of the patient upon those about him is great, it is a question in my mind whether enough is gained, by sending him long distances to some of the standard climates, to compensate for the loss entailed in mental stamina by the shock of the separation. In certain cases which have come under my observation, where, for instance, a wife has been sent from the east to Colorado, and could see her husband but once a year, or a daughter or son sent away from the rest of the family, it has hardly seemed to me that the climatic gain compensated for the loss of that peace and contentment of mind so essential for favorable progress in any chronic disease. Of course, individuals vary much in the manner of adapting themselves to circumstances and the inevitable. Where, however, the longing for the dear ones at home is extreme and continued, a spot nearer home with a climate less intrinsically ideal for the disease, but affording easy communication with the home friends, may accomplish better results; as, for instance, Sharon, in this State, or Lakewood, in New Jersey. Often it can be so arranged that members of the family can accompany the invalid, but sometimes not, as in the case—not infrequently arising—of a wife whose husband is confined at home by business or professional life, and upon whose labors the very ability to enjoy the new climate depends. Most people, it seems to me, hardly realize the shock which the separation from friends and familiar scenes produces, especially upon those of middle age, and upon those who have few resources within themselves. If a certain climate is considered a *sine qua non*, then it would seem wise in such cases to insist upon certain of the home friends accompanying the invalid, or, better, the whole family. The roaming life of the prairie schooner class, where the whole household go along, has other advantages besides its idyllic character; they carry home with them.

An environment of invalidism is almost inevitable in most of the well-known health resorts. Besides its injurious influences in other respects, mentally it is in many ways unfavorable. To be sure, calamity in a way makes us all akin, and in thinking of and helping an unfortunate brother our mind is diverted from our own misfortune to our benefit. On the other hand, however, to be amongst many others suffering

from the same disease as ourselves, in its varying degrees and phases, must often react unfavorably upon our own condition. Our disease is kept constantly before us; and I have noticed that a community of invalids seem morbidly eager to discuss their own symptoms, and learn to watch and note the smallest variations in their condition. When thus the mind is kept constantly upon the disease, the progress is naturally less favorable. Again, death must often occur in a community of invalids, which reminds, most emphatically, the survivors of the uncertainty of the issue in their own case. So the dread and doubt are kept constantly before them, and their mental attitude is anything but one of peace and calmness, which is of paramount importance if one would obtain the best results. I must confess that this seems to me to be a serious objection to such health resorts as are exclusively devoted to invalids and to those of the same disease; resorts, moveover, which are of narrow confines, like Davos, for instance. Is not the objection all the greater to sanitaria, where many invalids are under one roof, particularly if the disease is phthisis? It seems difficult, nevertheless, to obviate this. Naturally the physician desires to send his patient, and he to go, to the climate supposed to be best suited to his disease, and so, as a result, they collect at the few well-known localities. A wider and better personal knowledge of climates and a careful study of the individual patient can do something toward remedying this. The same or as favorable a climate as the one we think best adapted to our patient, and represented by a health resort centre, can often be found which has not yet been invaded by the army of invalids, and which, at the same time, possesses favorable conditions enough in other respects, such as food, lodging, companionship, diversion, and the like, to answer to the demands required by our patient. In the great climatic range of Colorado it would be pretty easy to do this, it seems to me, or in the high pine belt of the South, though here the matter of good food and accommodations might be a difficult one. Again, a sea voyage might accomplish it. Certain it is that the influence of an environment of strong, healthy, and consequently cheerful, individuals about an invalid is more conducive to rapid improvement and hopeful anticipation, than one of invalids with the constant reminder of "Memento mori."

Lastly, the age of the patient as a psychological factor is important in considering the effect of the change to be made. "Hope," it is true, "springs eternal in the human breast," but it springs more exuberantly in the young human breast, and we can count more upon this universal element in human nature in the young than in the middle-aged and older. The adaptability of the young to changed and new conditions is great, and with them we can venture on more radical changes than with the older, who are bound by long association to friends and places. Not infrequently it may be a question whether, with our older patients, it is wise to take the risks of an abrupt and radical change. At all events, if it is decided upon, more care should be taken to surround the invalid with some semblance of his former environment, so that he may more readily take root in the soil to which he is transplanted. After all, to keep him within a shorter radius of home may seem the wiser thing, the greater contentment and hopefulness retained by so doing compensating for the loss incurred by being in the less favorable climate.

In conclusion, I hope that I have emphasized some points often too lightly passed over in the very serious consideration involved in settling the question of change of climate for our patients. From my own experience and observation, it has seemed to me that these psychological factors, as I have called them, have not been given as careful consideration as their importance demands. Ours is a material and scientific age, and medicine feels the influence of the time and age; but there is a spiritual as well as a physical side to the human entity, and he is the wise physician who duly weighs in his considerations and decisions the influences of the spiritual side as well as that of the physical. "The doctor," says Wilks, "soon finds that in treating his patient the practice of medicine is not only one of physic, but of psychology, and that the effects of his drugs depends as much upon the constitution of the patient's mind as his body."

THREE RARE CASES ILLUSTRATED. MULTIPLE PAPILLOMATA OF THE VELUM; IMMENSE FIBROID TUMOR OF THE TONSIL; AND FIBROID TUMOR OF THE NASAL SEPTUM.

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THE cases illustrated herewith are of a rarity that justifies me in presenting them.[1]

The physical appearances of the tumors are well shown in the drawings, and require, therefore, no detailed description.

The differential diagnosis, in cases as well marked and distinctive as these, presents no difficulty; macroscopical signs alone will suffice for the recognition of their true nature.

Although papillomata are the commonest variety of true neoplasm of the fauces, a growth the size of

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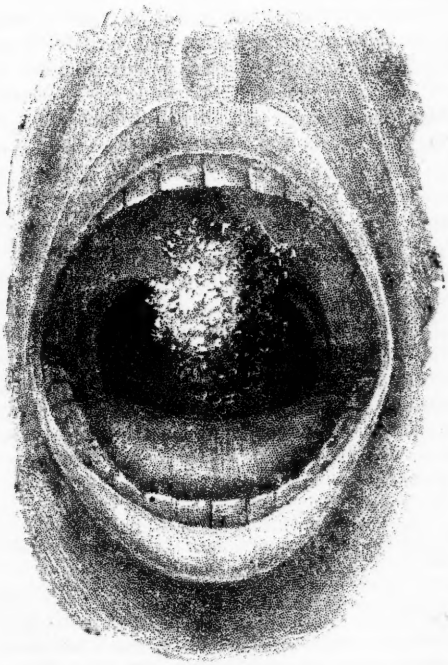
[1] Eleventh Annual Congress of the American Laryngological Association.

that shown in the present instance must be very unusual. It occurred in

CASE I.—A girl, æt. sixteen, who only accidentally noticed its presence in her throat when it had attained fully one-third of the dimensions here shown. Thereafter it grew rapidly and in eight months time resembled the drawing. Little or no inconvenience was caused, dysphagia never being present and but slight interference with the timbre of the voice.

FIG. 1.



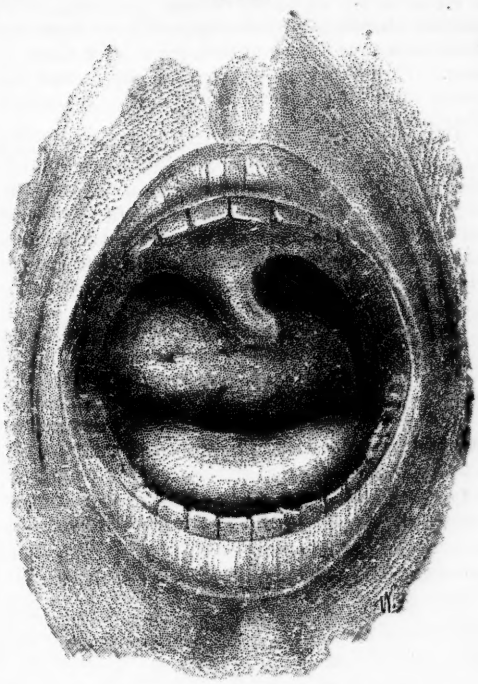
Papillomata of the velum.

After anæsthesia of the parts by cocaine the multiple tumors that made up the mass were removed by scissors curved on the flat. The uvula was not involved and was left intact. A superficial stellar cicatrix now shows the former site of the sessile portions of the growth. There has been no sign of recurrence.

CASE II.—A man, æt. fifty-five, who for many years had been aware of the existence of a slowly growing tumor in his throat; but increase in size being gradual, and no pain, interference with deglutition, nor embarrassment in respiration having, until lately, been experienced, no operative procedures had been allowed.

Now, at the date of examination, dyspnœa at night when in a recumbent position, and difficulty in the deglutition of both fluids and solids, the growth descending during the act and blocking the path to the œsophageal mouth, demand surgical relief. From the region of the right tonsil—the latter being involved in the growth—sprang the large, dense tumor, covered by a thin non-vascular mucous

FIG. 2.



Fibroid tumor of the tonsil.

FIG. 3.

Fibroid tumor of the nasal septum.

membrane, that is shown in the drawing. It possessed a more or less distinctly defined narrowing at its point of attachment, which rendered it an easy matter to encircle it at this point with the wire of the écraseur. This was done by Dr. C. E. Beebe and the tumor thoroughly and neatly removed. No hemorrhage.

CASE III.—Man, æt. thirty-six. I am acquainted with no instance in practice or literature of a *fibroid* tumor springing from the *nasal septum*, save the one here shown. The little tumor was hard and dense, its covering a thin, vascular, mucous membrane, and it was distinctly pedunculated by a delicate pedicle, the latter attached to the nasal septum, just above the muco-cutaneous junction, in the right nostril. The sole symptom caused by its presence was occlusion of the right nasal passage, the discomfort of which had caused the patient to seek advice. He was unable to state how long the growth had existed.

The pedicle was cut through with scissors and the tumor removed.

THE PATHOLOGY OF HEMOPTYSIS FROM CHRONIC PULMONARY DISEASE.[1]

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FOR the convenience of discussion, we will assume that we are considering only cases of true pulmonary hemorrhage, wherein all extraneous sources of blood supply, such as aortic aneurism, cardiac rupture, etc. have been ruled out of the symptoms of the case. We can then roughly divide pulmonary hemorrhages into two groups: (*a*) cases which present physical signs of pulmonary disease, and (*b*) cases in which no physical signs of changes of lung structure can be found.

Our knowledge of the pathological causes of hemorrhage in the first group has been thoroughly digested and organized by Virchow, Thompson and others. We know that hemorrhages proper in this group come from deficiencies in the pulmonary system of vessels, while bronchial hemorrhage, or leakage from the arterial supply of the bronchial tubes, is slight in quantity and merely streaks the accompanying secretions of those tubes. No inference can be drawn from the color of the blood as to its source, because the oxygenation of the pulmonary blood is so rapid that it is expectorated red. Blood which has lain stagnant in the tubes over night may, of course, look dark. Traumatic injuries of the vessels, aneurism, and diapedesis are familiar causes of hemorrhage in tuberculosis. According to Virchow, however, the greater number of hemorrhages in phthisis come from ulceration of the vessels.

In the second group, we find no clinical evidence of changes in the pulmonary parenchyma. We may, indeed, locate the presence of blood in the bronchial tubes, but this does not necessarily determine the seat of the leakage, because the blood is rapidly drawn off into by-ways and side-issues, quite remote from its point of departure. The presence of hemophilia, scurvy, and habits of excessive drinking would lead one to consider alterations in the composition of the blood itself as a possible cause of hemorrhage. Some evident point of departure for an embolus, the possibility of thrombosis, the previous inhalation of irritating fluids, are matters for deliberation in diagnosis.

Pulmonary congestion is not of itself alone a prolific cause of hemorrhage. Thus veritable hemorrhage is a rare complication of pneumonia, and yet that disease produces high grades of congestion. In whooping-cough and congestive bronchitis the amount of blood is rarely copious, and is the result of violent coughing. One writer has observed that hemorrhages are rare in acute maladies of the respiratory apparatus, and any pulmonary congestion which is not symptomatic of a cardiac affection is rarely accompanied by the expectoration of veritable blood.

This brings us to the consideration of the heart as a factor of pulmonary hemorrhage. Fernet says: "After tuberculosis, heart disease exerts the greatest influence in producing hemoptysis," and mitral troubles stand pre-eminent in the causative list. Here, also, the element of exertion comes in, upon which Thompson lays so great stress. He says:

> "The influence of exertion in the etiology of blood-spitting has not received so much attention as it deserves from the importance and frequency of the event, for cases occur in which hemoptysis has followed some unusual exertion, in which no positive proof of pulmonary disease can be shown to exist. . . . Prolonged exertion in walking and running leads to excessive hyperæmia of the lungs, consequent upon the rapid emptying of the veins into the right side of the heart, and either the lungs give way under a condition of general congestion with extravasation of blood, or local apoplexies of a similar kind occur; or, on the other hand, the heart may become overstrained, and give way in a condition of general dilatation."

The following case, under my own observation, will illustrate the pertinency of the above quotation:

Mr. A., thirty-seven years of age, had smoked to excess for many years, and also had a history of spitting blood about twelve years ago and also once or twice since then. On August 26, 1887, he attended a convivial dinner, and on the next afternoon he played lawn tennis very energetically. That evening he raised a considerable amount of blood, and again the next day. On August 29th, I examined him, and found a few coarse and medium râles in the left sub-scapular space, and a slight diminution in the volume of resonance over the same region. There were systolic murmurs in the aortic and mitral areas, and the heart apex was considerably outside the mammary line. The bleeding stopped

[1] Read before the American Climatological Association, June 25, 1889.

in a couple of days, and the patient was advised to avoid all smoking and all active exertion.

My notes for January 29, 1888, report, "No râles or dulness in the left sub-scapular space. Heart more regular, and murmurs faint."

In February, 1888, after walking against a strong, cold head-wind, he had another hemorrhage, with return of physical signs in the left sub-scapular space. The signs faded out more slowly this time.

On March 13, 1889, I found no dulness and no râles. The patient is strong and well, and is heavier in flesh than ever before. About six weeks ago, however, he raised a few mouthfuls of blood on the day following a plunge into the cold-water tank of the Athletic Club. The temperature of the water was about 68° F.

Still another group of cases calls for our attention, wherein none of the above conditions can be established. The lung simply bleeds, and there is nothing else to show for it. Some of these cases eventuate in phthisis. Some do not, and the crying appeal is to know if such cases are tuberculous at the outset. I can find no decisive answer to this question, though both sides have been maintained with hot fervor. The fact that all cases do not develop into phthisis is no argument, because all cases of tuberculosis do not advance to phthisis. The only solution of this problem lies in a critical microscopical search for bacilli in every fresh case of hemoptysis.

There is one suggestion regarding pulmonary hemorrhage which has been advanced by Virchow and others, but which has received less attention from clinicians than it deserves; I refer to the influence of the nerve centres. Virchow says: "If we cannot deny, therefore, the greater frequency of hemorrhage by certain weather conditions, especially by weather changes, yet it appears that here also a contributing cause (Wallungszustände) must be sought, which possibly lies in the nervous system."

We have already seen that pulmonary congestion, *per se*, is not sufficient for hemorrhage, inasmuch as pneumonia and other acute congestive processes of the lungs are distinguished by the rarity of hemorrhage. Moreover, Cohnheim has shown by his experiments upon embolism, that mere congestion is ineffective for bleeding in other organs. He induced an artificial embolism in the frog's tongue, by introducing small particles of wax into its circulation. The first effect was a severe congestion in the neighborhood of a vessel occluded by a bit of wax, but no hemorrhage occurred. Not until three or four days later was a hemorrhagic infarct formed; the blood cells then did not extravasate indifferently, but all of them passed through selected points and grouped about the same. These points were not otherwise distinguishable in their appearance. Hence, Cohnheim concluded that diapedesis is not due to the presence of a congestion, but to changes in the constitution and resistance of the vascular walls.

Admitting these facts, we ask if similar changes in the condition and resistance of the vascular walls can be wrought by any perversion of nerve influence alone, and we receive an immediate answer in the affirmative. I need only refer to a few illustrations. We are all familiar with the ecchymosis which forms on the under lid of suicides when the bullet has pierced a certain part of the brain. Schiff has shown that lesions of the cerebral peduncles can determine ecchymosis in the mucous membrane of the stomach; Brown-Séquard has produced hemorrhages in the lungs by lesions of the pons; Strauss speaks of the ecchymoses tabetiques upon the extremities following severe pain; Faisans and Kellar describe subcutaneous hemorrhages resulting from great moral commotion in neuropathic persons; vicarious menstrual hemorrhages are a common experience, and it is interesting in this connection to note that out of two hundred cases collected by Puech, hemoptysis figured twenty-four times—*i. e.*, in twelve and one-half per cent. Great weight is laid by Virchow upon a certain condition of the arteries themselves, which he called Wallung, or orgasm, and he evidently believes this Wallung to be under the direct control of the nerves. Affluxus of blood, he says, to the locality of an irritation, does not comprehend to-day the history of the blood Wallung. Of course, Wallung occurs upon irritation, but it is not always limited to the locality of the irritation. It may appear sympathetically at points greatly remote. Illustrations of this condition are observed in the pulsatio epigastrica of hypochondriacs; in the heat-flushes of women during the climacteric; in the pulsations of the head in cephalalgia; in the throbbing of a temporal artery with the toothache. Moreover, this sensation of Wallung is also felt in the chest and sometimes precedes a hemorrhage which removes the disagreeable sensation, according to the evidence of patients.

In conclusion, therefore, I would say that I believe that a more careful discrimination of our cases of pulmonary hemorrhage, would reveal some of purely neurotic origin.

HOSPITAL NOTES.

JEFFERSON MEDICAL COLLEGE HOSPITAL.

SERVICE OF J. M. DA COSTA, M.D.

(Reported by E. P. HERSHEY, M.D., Clinical Assistant.)

PSEUDO-HYPERTROPHIC PARALYSIS.

P. H., ætat. nine. For over a year has been under observation. He is now barely able to walk. When he first began to walk, it was with great difficulty. There is no history of spasm or acute attack. His walk is a

curious waddling one, the feet turned in, and he steps on his toes. The manner in which he gets up and stands on the tips of the toes makes us suspect at once that there is something other than mere paralysis. Removing his clothing, we are at once struck with the disproportion in the size of the muscles of the legs. The enormous increase of the muscles of the calves, not simply posteriorly but laterally. The bones are not enlarged, and there is perfect symmetry in the enlargement on both sides. The calves are very hard and firm; there is no sensitiveness in the muscles. Each calf measures ten and a half inches in circumference. He has been walking on his toes only during the past six months.

The muscles on the back of the thigh are dwindling; there is some hardness of the hamstring muscles, mostly on the right side. Both the biceps and triceps are small; there is certainly no enlargement. Has great difficulty in rising from the floor; first he gets on his hands and feet, then places one hand on his knee, then the other; the hands then, one after the other, are placed on the thigh, and he then rises with great exertion.

They may be other muscles implicated. Examining the upper extremities, we find the pipe-stem arms, the dwindled biceps, the same hardening of the triceps as was found on the legs. The inferior portion of the pectoral muscles is atrophied, the left side is extremely small. In the lower part there is apparently no muscular structure; this is not so marked on the right side. The infra-spinatus is not hypertrophied on either side. There is some atrophy of the latissimus dorsi muscles. The right shoulder is slightly higher than the left; there is no marked spinal curvature—evidently too early in the disease for this.

The boy is very bright. There is no disease of the heart. Its action is distinctly irregular: a series of slow beats, followed by rapid ones, 90 in the minute. The first sound is short, the second sound is exaggerated. The eye-grounds have been examined with negative results. The tongue is large and slightly coated; appetite good; bowels are regular.

Microscopical examination of the muscular tissue, taken from the gastrocnemius muscle of the right side by means of the muscle trocar, shows the muscular fibres to be in a condition of granular degeneration; an increase of connective tissue, oil globules taking the place of muscle cells; much of the muscular striæ lost, and here and there a narrowing of the fibres.

Here we have a disease that has slowly progressed from infancy, but was only made manifest to those about him when he first attempted to walk. The boy is of the classical age for what we have here, the rare malady, pseudo-hypertrophic paralysis. This affection usually occurs between the ages of three and ten. If it does not develop until the child reaches its tenth year, it is apt not to happen. This is not absolute. It may come on at the age of puberty, but in the vast majority by the tenth year the disease has so fully developed as to be readily recognized. This case is not coexistent with any cerebral or spinal lesion. There is no history of tardiness in the mental development, no history of convulsions. We find the spinal nervous system not quite normal. A little perverted sensibility in the legs, no anæsthesia. A striking point is the absence of the patellar tendon reflexes; there is absolutely no response. In our electrical examination we find marked diminution in response both to the faradic and galvanic currents, in the inferior spinatus, the biceps and triceps, the glutei, and the extensors of the feet. In the vastus internus there is scarcely a perceptible response; the gastrocnemii respond.

The seat of the lesion is not in the central nervous system. It is inherent in the muscular system. There is a possibility that it may be in the periphery of the nerves. The reasons for the assertions are: first, the age at which the disease manifests itself. All degenerative lesions of the nervous system, except essential paralysis of infancy, happen, not in children, but in adults. The very age, therefore, is an argument against a central lesion. Again, another strong argument against it is, that the autopsies made, summing up all our knowledge on the subject, are negative in regard to changes in the anterior cornua. The affection is essentially muscular; but we need further observations on the possibility of lesions of the peripheral nerves. The absence of reflexes is very significant.

The disease is strongly hereditary. In this case we have been unable to elicit any family history; this is the only child in a family of six that has the disease. It is apt to be transmitted through the mother. While it may go through the family, the mother herself escapes, the girls escape, and the boys take it.

Treatment.—There have been no favorable results in trying to modify the disease by means of alteratives. Indeed, no internal treatment is of much avail. If anything, Fowler's solution, gtt. ij t. d., and the dose gradually increased may be tried. Careful exercise; massage; mild faradic currents to get muscular action without altering the tone may also be used.

MEDICAL PROGRESS.

Hot-air Inhalations in the Treatment of Phthisis.—Since the valuable contributions of Cornet, the prophylaxis of tuberculosis has assumed a reasonable and applicable form, yet the profession feels almost as much in the dark as ever regarding the therapeusis of this dread disease. Although there is perhaps no other disease for which there are so many reported cures, yet we are forced to confront the fact that there is no disease the prognosis of which is so doubtful and discouraging. Still, medical science is actively seeking for some efficient therapeutic method. Of investigators there is indeed no lack.

Notably among the most recent methods of treatment is that of hot-air inhalations first suggested by Weigert, who patented an apparatus for this purpose and published a popular treatise entitled, "Consumption and its Cure." His method has already been extensively investigated.

RENZI[1] carefully noted the physiological effects of the inhalation of air at a temperature of 284° to 329° F., and found that the respirations were accelerated and the pulse quickened. He then applied the treatment to several patients suffering from phthisis, and arrives at the following conclusions:

1. The inspired air must, in order to exert any beneficial action, be of a very high temperature. Inhalations

[1] Morgagni, No. 17, 1889, and Centr. f. die gesammt. Ther., June, 1889.

of air at a temperature of 110° to 120° F. have no influence whatever.

2. Inhalations of air at temperatures varying from 176° to 320° F. were endured without inconvenience to the patient.

3. The minimum temperature for the inhalations should be about 320° F. Each *séance* should last from fifteen minutes to an hour.

4. In one case the inhalations were followed by hæmoptysis, but, as the patient frequently had had hemorrhages prior to the inhalations, the symptoms could not be positively ascribed to the treatment.

5. In every case in which the treatment was employed, there was a marked improvement in the general condition of the patient and an increase in strength.

6. In a few cases there was an increase in the bodily weight and a decrease of the number of bacilli in the sputum; both the action of the heart and the respirations were increased; there was also a rise in temperature.

According to the above conclusions, one would be led to consider the treatment merely palliative.

The results of DR. KOHLSCHÜTTER[1] are, however, more definite, and confirm the results obtained by Weigert. Kohlschütter advises the inhalation of even hotter air than that used by Renzi; the thermometer on his apparatus registering as high as 482° to 572° F. during the application of the treatment. Of course, the air actually inspired was much lower than this; still the temperature must have been very high, as the expired air was 110° F.

Kohlschütter's experiments extend over a period of seven weeks, during which time numerous patients were subjected to the treatment. The principal results obtained by him were, first, marked increase in the expansion of the chest; in one case the increase being three inches. Second, where a pleuritic exudation had existed, this disappeared, likewise râles and other symptoms of abnormal breathing. Third, the depth of the respirations was also materially increased. Fourth, microscopical examination showed a decided decrease in the number of bacilli in the sputum. Most notable, also, was a change in the bacilli themselves; whereas, prior to the treatment the bacilli were found equally distributed all through sputum in the typical "row of beads," as well as the flat form, they were, after the treatment, found only in clusters of three and four, and the flat form were no longer to be found.

A slight rise of temperature, similar to that noted by Renzi, was also observed by Kohlschütter; the latter investigator also observed that the respiration became slower, as well as deeper. Shortness of breath entirely disappeared in all cases. At first expectoration was considerably increased, but after a continuance of the treatment it became greatly lessened. The appetite was invariably improved, and the patient's weight increased. Kohlschütter is still actively investigating the subject.

The most recent results obtained from this treatment are those of DR. GEORGE G. SEARS, of Boston,[2] who reports four cases which he treated with hot-air inhalations, the temperature employed being about 392° to 428°. His experiences are far from confirming those of Weigert, Renzi, or Kohlschütter. Briefly stated, they are as follows: In one case temporary improvement was quite marked, but at the time the treatment was discontinued there had been a further advance of the disease, and for the first time in her illness hæmoptysis occurred. In one case the inhalations were omitted after one week, owing to salivation and soreness of mouth, with a loss to the patient of three pounds in weight. In another case there was also fairly steady improvement in the general condition of the patient, but without corresponding improvement in the physical signs. She had, however, already begun to improve before the inhalations were resorted to. Five days after they were discontinued, death resulted from hemorrhage. In the fourth case the condition of the patient remained unchanged, except that during the treatment blood was found in the sputum for the first time. Although Sears in every case carefully subjected the sputa to frequent microscopical examinations, no decrease in the number of the bacilli was noted.

In conclusion, we may draw the following inferences:

1. Inhalations of air at a very high temperature (from 350° to 360° F.) are capable of producing, in many instances, a marked improvement in the general condition of phthisical subjects. The permanency of these improvements are, however, extremely doubtful.

2. The influence of hot-air inhalations upon the growth of the tubercle bacilli is uncertain. It is probable that the bronchial secretions are sterilized by the inhalations, but their influence upon the bacilli deeply imbedded in the pulmonary tissue is most doubtful, as the inspired air by the time it has penetrated into the deep lung tissues becomes so cooled that any germicidal property is highly improbable.

3. Symptoms of hæmoptysis having been observed to follow the use of the inhalation, indicate that great caution should be used in the application of the treatment.

4. The treatment, at best, should be considered palliative or prophylactic rather than curative.

Treatment of Uterine Cough.—The *Revue Gén. de Clin. et de Thér.* of June 27th states that valerianate of quinine will be found most valuable in the treatment of uterine cough. Its beneficial action is ascribed to its antispasmodic properties, as the affection itself is of a reflex nature. The drug may be prescribed either in solution or pill form. If the former is used, the addition of an infusion of black coffee will be found valuable.

I.

℞.—Valerianate of quinine . . grs. xv.
Infusion of black coffee . . f℥jv.
Simple syrup . . . . f℥jss.—M.

Sig.—One, two, or three large spoonfuls after meals.

II.

℞.—Valerianate of quinine } . . s. a.
Extract of quinquina }

Divide into ten pills.
Sig.—One pill after each meal.

Indications for Iridectomy and Sclerotomy in Glaucoma.—DR. LOSHECHNIKOFF, writing in an ophthalmological review, published at Kieff, gives a *résumé* of 284 scle-

[1] Inter. klin. Rundschau, No. 10, 1889.
[2] Boston Medical and Surgical Journal, July 11, 1889.

rotomies performed by him while attached to the ophthalmic clinic in Moscow. The operation employed was Wecker and Mauthner's double sclerotomy. There were eight cases of acute glaucoma, sixty-eight of chronic glaucoma from inflammation, ninety-three of absolute glaucoma, seventy-one of incipient, and eleven of simple glaucoma. To each series is added a table of effects on tension and sight. The effect is called "excellent" when T. (tension) becomes normal, or less than normal, and central sight increases; "good" when T. decreases and V. (vision) remains the same; "medium" in cases of *status quo ante*, or when V. is somewhat worse, but T. decreased, or when there is a little improvement of V. with permanent T.; "bad" when V. is worse and T. permanent. In Table III., which deals with absolute and degenerative glaucoma, the author often says: "V. improves," "V. remains unaltered," though we are accustomed to use the expression "absolute" only in complete blindness from glaucoma. The author, however, claims for this series the best results—no less than 82 per cent.

The following are some of his conclusions: Iridectomy is indicated in chronic and subacute glaucoma. In absolute glaucoma, with symptoms of degeneration, sclerotomy is indicated. In acute glaucoma sclerotomy is a preliminary operation, to be followed generally by iridectomy. Sclerotomy is, for the sake of appearance, preferable to iridectomy, and holds out better prospects for the improvement of sight. It is consequently indicated in incipient glaucoma. In simple glaucoma sclerotomy is preferable. In all cases of imminent prolapse of the vitreous, and especially in congenital hydrophthalmus, sclerotomy is indicated. In secondary glaucoma iridectomy is always preferable. It is absolutely necessary to use eserine before sclerotomy.—*The Lancet*, June 22, 1889.

Laparotomy upon a Newborn Infant.—A successful laparotomy for umbilical hernia on a child but one hour old, is reported by DR. PHŒNOMENON, of Kasan, in the *Revue Gèn. de Clin. et de Thèr.* of July 11th. The child was born with a large umbilical hernia, and, within an hour after the ligation of the cord, was chloroformed and operated upon. Antiseptic precautions were carefully observed, the abdominal cavity sterilized, and the sac, peritoneum, and wound sutured successively. Recovery was rapid, complete, and devoid of any complications. Such serious operations in so young a subject are still among the rarities of surgery.

Salve for Scrofulous Keratitis.—DR. SAINT-GERMAIN gives the following salve for scrofulous keratitis in *L'Union Médicale* of July 6th:

℞.—Yellow precipitate of mercury . grs. xv.
Vaseline . . . . . ʒiij.—M.

With the aid of a pair of pincettes, or a paper spill, a small quantity (about the size of a pea) of this salve should be placed under the lid, and then the latter gently rubbed so that the ointment becomes spread over the entire surface of the eye. The result will be most satisfactory.

Local Application of Chloroform in Epididymitis.—DR. THEODOR CLEMENS, of Frankfort, in an interesting paper communicated to the *Allgemeine medicinische Central Zeitung*, describes the great benefit he has obtained in cases of epididymitis, both specific and non-specific, by means of chloroform locally applied. He regards as most unsatisfactory the treatment of the affection by other methods as compared with his own, which he has employed now for a great many years. It consists in laying some cotton-wool saturated with chloroform and spirit at the bottom of a large glass vessel, into which the genitals are then put and packed round with dry cotton-wool, the buttocks and thighs forming a cover, this application being continued for from fifteen to twenty-five minutes, and repeated two or three times a day.

Pathologically, he considers venous congestion of the epididymis and the cord through retention of semen a predisposing cause of the disease. He also considers epididymitis as very likely to occur when gonorrhœa has been contracted in excessive venery.

He mentions a case of treatment by chloroform thirty-six years ago, not of epididymitis, but of periodical "heat" occurring in the human subject. The man used to suffer periodically from a form of orchitis, during which the testes felt hot and swollen, and the plexus pampiniformis was full and turgescent like a varicocele. He was ordered the local application of chloroform three times a day, from fifteen to twenty-five minutes each time, but the first time he bore the chloroform for nearly thirty-five minutes, after which the pain of the severe attack completely ceased and the swelling considerably decreased. This treatment lasted three days, during which time he was able to walk about, the cotton-wool which had been used for the chloroform being put into the suspensory bandage and the testes covered with it. After that both the swelling and sensibility disappeared. Another case is mentioned, in which epididymitis had been caused by the continuous pressure of a rudder handle on the hypogastrium, in which similar treatment proved entirely successful.

Again, a class of case that is usually very difficult to treat—viz., that of gonorrhœal orchitis—seems to have proved fairly tractable when managed with the help of chloroform. Here one of the first signs of improvement was frequently the reëstablishment of an old discharge, which was soon cured simultaneously with the epididymitis.—*Lancet*, July 13, 1889.

An Expectorant Potion.—The *Union Médicale* of July 11th, recommends the following:

℞.—Powdered ipecac . . . . grs. v.
Oxymel of squill . . . . fʒvss.
Syrup of ipecac . . . . fʒj.
Infusion of senega . . . fʒiijss.—M.

Make potion.

Sig.—Give in teaspoonful doses. It will facilitate the expectoration of mucus and relieve bronchial inflammation.

New Therapeutic Properties of Antifebrin.—We read in the *Centralbl f. d. gesam. Therapie* for July that DR. ERNST JENDRÁSSIK has discovered additional and most important therapeutic properties in antifebrin.

In those typical attacks of excitement, and even violence, which occur in tabes and dementia paralytica, eight-grain doses of antifebrin acted as a rapid calmative,

the excited condition of the patients quickly giving place to a state of repose under its influence. The paralytic attacks were also greatly shortened by its use.

Jendrássik also used similar doses of the drug with great success, in combating the laryngeal spasms of tabetics. These spasms, which usually occur near bedtime, cause the patient profound distress and frequently necessitate him to leave his bed and pass an almost sleepless night. In every case, however, where, as soon as the symptoms of the oncoming attack manifested themselves, antifebrin was given, the spasms were almost invariably aborted.

A Diagnostic Sign of Early Pregnancy.—At a recent meeting of the Medical Society of Giessen, DR. LÖHLEIN read a paper on the subject of the early diagnosis of pregnancy, and, after discussing the various diagnostic signs now known, mentioned a new one, by which it is possible to diagnosticate pregnancy during the second or third month. At this time there is a characteristic softness, compressibility, and elasticity of that part of the corpus uteri nearest the cervix. This may be felt by bimanual examination, one finger being introduced into the rectum and one hand pressing the abdomen.—*Deutsche med. Wochenschrift*, June 20, 1889.

The Administration of Chloroform by Gas-light.—As is well known, says the *Lancet* of July 27, 1889, it has been the practice to avoid the use of ether for anæsthetic work if artificial light is needed, whenever there is fear lest the ether vapor mixed with air be heated sufficiently to explode. The heavier vapor of chloroform, in addition to not being liable to form an explosive mixture with common air, is far less inflammable, and so has been hitherto regarded as a safe anæsthetic in such cases, at least as far as dangers from fire are concerned. Recent researches undertaken by Dr. Iterson, however, seem to show that chloroform vapor, when allowed to mix with the products of combustion of ordinary coal gas, undergoes decomposition and liberates gases of a most irritating nature. Dr. Iterson believes death has been brought about in one case at least by inhaling the noxious vapors, and recounts other instances in which alarming symptoms have supervened. One patient, although apparently but little affected while inhaling the chloroform, became painfully dyspnœic afterward, gasping and evincing the usual symptoms of asphyxia due to irritant vapors. These alarming effects passed off when the windows were thrown open and the fumes of coal-gas combustion and chloroform were permitted to escape.

It is well known that samples of chloroform which have been kept exposed to diffused light will after a while become contaminated with chlorine and acid substances, which possess most irritating properties; but until Dr. Iterson's warning arrived, we were not aware that chloroform vapor would, when diffused in the air of a room or operating theatre, be decomposed in passing over a jet of ignited coal gas. We know that, heated to redness, chloroform splits up into hydrochloric acid, chlorine, and other products, including the trichloride of carbon; and both Soubeiran and Liebig have pointed out that, although chloroform vapor cannot be ignited in the air, it will, if passed over a spirit-lamp flame, burn, and liberate irritating vapors. The question as to the gases most probably formed, if the coal gas is capable of uniting with the products of chloroform decomposition, is too wide a one for us to enter upon; nor do we think that we need go farther than to say that, if Dr. Iterson's facts are to be taken without reservation, the irritant bodies which exercised so deleterious an influence were, in all likelihood, the products of the ordinary decomposition of chloroform—namely, free chlorine, hydrochloric acid, and possibly other chlorides and ammoniacal compounds.

The Treatment of Tooth Rash.—DR. E. BESNIER, says the *Gazette Méd. de Nantes* of July 9th, considers that the rash appearing on the hands, wrists, and back of infants during teething to be caused reflexly by facial rash, the latter being induced by the copious flow of saliva from the mouth due to the irritation of the gums.

In treating this rash, therefore, he recognizes the following indications: first, to ease the irritation of the gums; second, to relieve insomnia; third, to relieve the rash itself.

1. To ease the irritation of the gums, he advises that they should be frequently and gently rubbed with the finger, which has been dipped into the following mixture:

℞.—Hydrochlorate of cocaine . gr. ¼.
Bromide of potassium . . grs. viij.
Distilled water } . . āā f ʒ iij .—M.
Glycerine }

2. To relieve the insomnia, a tablespoonful of the following formula may be given every hour:

℞.—Bromide of sodium . . grs. v to viij.
Syrup of orange flowers . f ʒ ij.—M.

3. For the treatment of the rash, the following salve should be constantly applied:

℞.—Oxide of zinc . . . ʒ iij.
Vaseline . . . . ℥ j.—M.

Strangulated Ovarian Hernia in an Infant.—The following interesting case is reported by MR. BILTON POLLARD, F.R.C.S., in the *Lancet* of July 27, 1889:

E. R., a female child aged three months, was admitted into the Northeastern Hospital for Children, on March 30, 1889.

When the child was two months old, its mother noticed a lump in its groin; the lump used to disappear for a time and then return; its size was variable. An inguinal truss was ordered at the hospital and applied; the hernia was then supposed to have been reduced. On the 27th the truss was removed, and an irreducible swelling was noticed in the right groin. On the 29th the patient was seen at the hospital by the house surgeon, who found the hernia irreducible. When admitted, there was a swelling of a rather larger size than a pigeon's egg situated over the right external abdominal ring, and distending the upper part of the right labium majus; the skin over it was red and hot; the swelling felt elastic, and indistinct fluctuation could be made out; it was irreducible, gave a dull note on percussion, and altogether simulated an abscess. Soon after admission the child was placed under the influence of chloroform, and an incision one inch and a half long was made through the superficial tissues, which were all œdematous and matted together. The sac contained an ovary and the fimbriated

extremity of the Fallopian tube; they were both greatly swollen, black or gray in color, and in places coated with lymph. The sac and its contents were mopped over with a 1 in 500 solution of perchloride of mercury, the pedicle was drawn down, transfixed, and tied in two pieces with silk ligatures, and the pedicle was returned within the abdomen. The neck of the sac was tied with a silk ligature, and the body of the sac was excised. The wound was made as dry as possible, and the skin brought together with silk sutures. No provision was made for drainage. A dressing of boracic acid powder and salalembroth gauze and wool was applied. The temperature reached 101.2° F. on the day after the operation; it had fallen to 98.6° by the following day; on the fifth day after the operation the temperature rose to 101.8° without any obvious cause; with these exceptions the temperature kept about normal. The dressing was changed daily. The wound healed by first intention. The stitches were removed on the seventh day, and the child was discharged on the eighteenth day after the operation.

Lanolin in the Treatment of Urethritis.—On account of lanolin having the property of adhering to the mucous membrane, DR. STERN, in the *Wiener klin. Wochenschr.* of July 4th, concluded to use it mixed with oil as a base for urethral injections in gonorrhœa and urethritis. His experiments were crowned with great success. The injections should be retained in the urethra for five or ten minutes. Antiseptic or astringent remedies should be added. Stern uses either of the following formulæ:

I.

℞.—Sulphate of zinc . . . grs. viij.
Water . . . . . f. ℥j.
Lanolin anhydrate . . . ℥v.
Oil of almonds . . . . f. ℥ijss.—M.

II.

℞.—Salicylic acid . . . . grs. jv.
Oil of almonds . . . . f. ℥ijss.
Lanolin anhydrate . . . ℥vjss.—M.

Stern found it necessary to continue these injections for only ten days at the longest; after which he advises the use of injections of a one and one-half per cent. solution of resorcin.

Antipyrin in Enuresis.—The *Prager med. Wochenschr.* of July 3d says that DRS. PERRET and DEVIC have used antipyrin with great success in the treatment of enuresis. Two doses of ten or fifteen grains, given one at six and one at eight o'clock in the evening, had the desired effect. The continuance of the treatment was only necessary for a few days.

Peru Balsam as a Germicide.—The recent and remarkable results obtained by LANDERER with balsam of Peru in the treatment of tuberculosis, have led DRS. BRANTIGAM and NOWAK to make a careful test of the germicidal properties of the drug. Their results are as follows:

(1) Pure balsam of Peru will kill microörganisms inside of twenty-four hours.

(2) Emulsions of the drug, up to a strength of twenty per cent., exerted no specific effect either upon the development or growth of bacteria upon which they were tested (cholera, anthrax, green pus, and subtilis).

(3) The beneficial actions of the drug are probably due to its influence upon ptomaines. — *Wiener med. Presse*, July 7, 1889.

Guafine, a New Antipyretic.—DR. L. BERTRAND has recently reported in the *Bolletino Farmaceutico* for July, 1889, the results of his experiments with guafine:

Guafine is a resin, which Bertrand succeeded in extracting from the leaves of the *psidium pyriferum*, a tree belonging to the myrtaceæ, and indigenous to the East Indies and South America. The leaves contain a considerable quantity of tannin and oxalate of lime and only two per cent. of the resin guafine. The results of numerous experiments proved that guafine was of considerable value in intermittent fevers. An infusion of the leaves or bark of the psidium is said to be a digestive.

Medical Treatment of the Intestines.—In concluding an article on the subject of intestinal obstruction (London *Medical Press* of July 24th), PROF. H. NOTHNAGEL says:

"I may briefly state in one sentence all the treatment I can recommend as an hospital consultant: Absolute abstinence from food; induce the peristaltic action from below; still it from above; and, above all, avoid purgative medicines. Further I know of nothing to add for the guidance of others.

"As regards other methods of treatment, very little can be said, but there are one or two forms of recent origin which I cannot pass without a remark. Washing out the stomach was introduced by Kussmaul as a remedy, but past experience of this form of treatment has nothing particular to commend itself, and has been of very little use. One advantage in using it is that it is a harmless application, and there is not any danger attending its use. The clyster I can always recommend as a most effectual remedy in all forms of fecal accumulations, but it is not suitable for fecal vomiting where there are inflammatory conditions. The object of a large clyster is to break up large fecal masses, but this is to be avoided where there is a tender bowel. Electricity is another remedy which has come into recent favor, and is not without merit. When using this agent it is recommended that both poles be placed over the tender or painful part of the bowel, or one pole introduced into the bowel. The successful cases from this treatment are so few that no opinion can be vouchsafed. There are other drugs, like belladonna, nicotine, and others that might be named, but there is one regularly prescribed drug that might be noticed. There was a time when every case of stoppage of the bowel must be drugged with mercury, but the greater number of the observers of this treatment have spoken very adversely of it. No doubt an individual case has arisen where success may be attributed to the drug, but these are very few, and leave us in grave doubt when it should be used at all. If the tradition of this drug tempts you to its use in any form of vomiting, I beg to consign it to your charge with care, and trust that you will carefully use your own judgment in applying the drug where the least danger exists. In concluding my observations on the medical treatment of the bowel, I feel it my duty to say that the most severe cases that we meet in our daily practice are frequently beyond the reach of our medicines, when arising from locking of the bowel, and properly belong to the region of operative surgery for their relief."

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RECENT ADVANCES IN ORTHOPÆDIC SURGERY.

IN surgery, as in the allied sciences, a gradual growth with occasional marked advances, counterbalanced by serious errors, has brought us to the present standpoint. But in no department has superstition, ignorance, and charlatanism retarded the progress to such a degree as in the special department of orthopædic surgery. Its advance has been marked by periods of activity followed by intervals of repose.

As in the history of amputations, in which perfection has been marked by three great achievements—the discovery of the tourniquet, ligature, and the antiseptic method—so progress in the treatment of club-foot has had its perfection hastened by important discoveries.

Hippocrates described these deformities, and Polybius handed down the record, but a long interval succeeded, and even in the time of Celsus, when every other subject was considered, this is not even mentioned, so that it was not until the middle of the seventeenth century that it again claimed attention, and the second impetus was given to the subject by Ambrose Paré. Following him came Severinus, Fabricius, Andry, and Du Verney, but nothing important was added to the subject until 1784, when Thilenius, a physician of Frankfort, successfully performed an open section of the tendo Achillis, and Venal, called by some the "father of orthopædic surgery," founded an institution in Orbe, Switzerland, and together they inaugurated a revival in orthopædy.

The impetus given by these masters was continued by such men as Stromeyer, Delpech, Rudolphi, Petit, Velpeau, Dieffenbach, Bonnet, and Guérin, but it was not until the full recognition of the grand possibilities of antiseptic surgery emboldened men to undertake procedures that before seemed impossible, not until the appearance of the osteoclast, the osteotome, the wrench, etc., and the performance of osteoclasis, osteotomies, redressement forcé, excisions, resections, etc., brought us into the midst of a new era—an era as decided as those of 1641 and 1784, and, we believe, equally, if not more, important. If we doubt this, we have but to look about us to witness the immense strides that orthopædic surgery has taken within the past fifteen years, and it was the advent of the antiseptic era that rendered them possible.

These advances are all in the direction of positive methods and certain results. In the operations for club-foot the resisting structures are unfolded and the foot retained in a corrected position until there is no tendency to relapse. This is accomplished by stretching, tearing, or dividing the contracted tissues. Thus, the methods of to-day may be divided into mechanical and operative.

The best instrument with which to apply force is undoubtedly the hand, and it has been shown recently (*Trans. Amer. Orthop. Assoc.*) that the force that can be safely applied is only a little short of that which would cause destruction of the soft parts. But this is often inadequate, and screw power is brought to bear through the mechanical devices of Morton and Bradford, or the wrenches of Thomas and Gibney. With these a powerful crushing force can be applied, which, with stretching and tearing, brings the foot into a corrected or over-corrected position.

Of the numerous operative procedures presented for severe and inveterate cases, the most important are combinations of tenotomy with subcutaneous or open incision, and osteotomies. Subcutaneous incision of all the soft parts on the inner side of the foot has the advantage of leaving the skin intact, but, combined with the danger of cutting the internal plantar artery and nerve, there is also an element of uncertainty in the tissues divided that does not occur in the open incision.

Strict antisepsis then has substituted for the subcutaneous operation the percutaneous method or open

incision of Phelphs and Hingston by which all the tissues which prevent perfect redressement—the skin, fascia, tendons, ligaments, etc., can be incised, and the wound be allowed to heal. That the operation is gaining ground one must infer from the increasing number of cases thus treated abroad, and the favorable terms in which it is spoken of by Schreiber, Rupprecht, and others. As performed by Nönchen, Cordua, Ph. Schede, Lauenstein, Albert, Billroth, and others, it is essentially the operation of Phelphs, and O. v. Büngner, in a recent contribution to the *Centralb. f. Chirurgie*, "Upon the Treatment of Congenital Club-foot in the Clinic of Prof. Volkmann, at Halle," reports twenty-one operations in fourteen cases, treated since 1884, ranging from four months to fifteen years, and commends the operation, all the cases healing without reaction and presenting beautiful results.

The division of the internal lateral ligament, as pointed out by Parker, is an important addition in certain cases, and deserves more general recognition than it has generally received.

The immunity from bad results under the protection of antiseptic covering has even led many beyond the bounds of propriety, and some dozen or more operative procedures upon the osseous structures of the foot have been advocated—the astragalus, talus, scaphoid, cuboid, the cuneiform bones, and the apex of the external malleolus have all been removed, and we cannot help thinking with Reeves, that these are the days of *les folies chirurgicales*, or as Erichsen has termed them, of *surgical audacities*.

There is, however, one operation which is likely to retain its position among accepted procedures for the relief of inveterate cases—astragaloid osteotomy. As described recently by BRADFORD in a paper before the American Orthopædic Association, the procedure is not difficult, and "the result is similar to that in Macewen's operation for knock-knee." An incision through the skin is made clear to the bone from the tip of the internal malleolus to the inner side of the first metatarsal, and the foot straightened as the metacarpal bone is separated from the malleolus. The scaphoid will be seen before the astragalus is encountered, if the deformity is great, and it will be first within reach of the knife in all cases. If the foot is still further stretched, the scaphoid begins to uncover the side of the astragalus, and the neck of the astragalus is seen; a small osteotome is placed upon the neck of the astragalus, to the distal side of the scaphoid articulation, and as in the Macewen operation, the neck of the astragalus is nearly or fully divided. The foot is then forcibly straightened, and the unchiselled portion of the neck of the astragalus is fractured.

With these means—forcible manual and mechanical restoration, tenotomy, subcutaneous or open incision, and astragaloid osteotomy—there is a certainty of curing club-foot never before obtained, and, as Bradford remarks, "In no branch of surgery can a cure be more confidently promised than in the treatment of club-foot."

Truly, we are to-day in the midst of a new era in orthopædic surgery, and the names of Macewen, Ollier, Gibney, Willard, Parker, Phelphs, Lorenz, and others, will characterize a period of surgical activity equal to any the world has known.

THE GROWTH OF THE BRITISH MEDICAL ASSOCIATION.

THE annual report of the Council of the British Medical Association presented at the Leeds meeting this week gives some interesting data concerning the growth of the Association. It calls attention to the fact that when the Association for the first time met at Leeds, in 1843, its membership was a little over 1600; twenty-six years later, when it met again in the same city, it had increased only about 2400; and now on its third visit to Leeds, after the lapse of twenty years, its membership has further increased by 8802 to a total of 12,897.

The marvellously rapid rate of growth in recent years of the membership of the Association is the direct result of, and has followed closely upon the advancement of the *British Medical Journal* to the position of the leading medical periodical of Great Britain, through the able editorial management of Mr. Ernest Hart and the active coöperation of a very large staff, such as only a great centre of medical activity like London can furnish. As soon as the *Journal* attained this position medical men all over the kingdom hastened to become in receipt of it by joining the Association. Thus the *Journal* has built up the Association to a large membership and to a position of widespread influence and power, and it has an additional circulation, outside of the Association, of between two and three thousand. Its present total circulation of over 15,500 copies is probably not exceeded by any medical journal in the world.

During the year the Association has expended fifteen hundred dollars on its library and two thou-

sand dollars in grants in aid of original scientific research. Its financial exhibit shows a net profit for the past year of over twenty thousand dollars. Altogether the Association presents a degree of prosperity, and is doing an amount of good work which is extremely creditable alike to its management and to the British profession.

THE United States Hay Fever Association will hold its Sixteenth Annual Meeting on the 27th of August, at Bethlehem, N. H.

DR. KINYOUN, of the Marine-Hospital Service, and some others engaged in physiological inquiry, requested the Mayor of New York City to allow some of the condemned dogs at the pound to be transferred to them for scientific purposes. The Mayor has duly considered the petition, and has also heard what the anti-vivisectionists have to say; he has rendered his decision, which is a refusal to give the dogs over to them in a living state. After the dogs have been drowned the students can have all they want: "hundreds of them for anatomy, but not one for physiology," is the Mayor's doctrine.

A FATAL case of actinomycosis hominis has recently occurred in New York City. The case was that of a young man, who was well up to February last, but in April became very ill, with symptoms referable to the liver. At the autopsy the liver was found to weigh nine and a half pounds, and the size of the fungoid growth upon and within the liver exceeded that of the organ itself. His attending physician have, as yet, been unable to determine, to their satisfaction, how the disease in this case was contracted; they suspect that the fungus was swallowed with food or drink, and, taking root low down in the œsophagus, spread thence along the diaphragm to the abdominal wall and liver. The liver is rarely the seat of actinomycosis; in fact, the disease is not often found in any of the organs below the diaphragm, but when it is so found it is in most cases located in the intestine.

DR. ALEXANDER B. MOTT, Professor of Clinical and Operative Surgery in Bellevue Hospital Medical College, died of pneumonia after a very brief illness at his country residence at Yonkers last Monday.

Dr. Mott was the fourth son of the late Valentine Mott, and was born in New York on March 21, 1826. He was graduated in medicine in 1850, and subsequently served as Visiting Surgeon to St. Vincent's and Charity Hospitals. At the outbreak of the war he accompanied the first regiments to Washington and organized their medical corps and served throughout the war, and was present at Appomatox Court House at the signing by Generals Grant and Lee of the articles of agreement to surrender. He was one of the original members of the faculty of Bellevue Hospital Medical College. He leaves one son, Dr. Valentine Mott.

DR. JAMES L. CABELL, Professor of Anatomy and Surgery in the University of Virginia, died at Overton, Va., on Tuesday, aged seventy-six. He was graduated in medicine at the University of Maryland, in 1834. During the war he had charge of the Confederate military hospital in Charlottesville. He was Chairman of the National Sanitary Conference at Washington during the yellow fever epidemic at Memphis, and subsequently was President of the National Board of Health. He was an accomplished physician, and a scholarly and courteous gentleman.

JOB KENYON, M.D., died of apoplexy, at Providence, R. I., on the 5th inst., at the age of sixty-eight years. He was born in Exeter, R. I. He was graduated in medicine at the Yale Medical School, in 1846. In 1862 he became Assistant Surgeon to the Third Rhode Island Artillery, then stationed at Hilton Head, S. C., but was compelled, on account of ill-health, to resign after a few months' service. From 1865 to 1869 he was Physician to the United States Marine Hospital, then located in Providence. In 1871 he was appointed by Gov. Padelford a member of the Board of State Charities and Corrections, in which office he continued until his resignation in 1884, rendering the State intelligent and efficient service. He represented the towns of Coventry and Warwick at different times in the State Senate. He became a Fellow of the Rhode Island Medical Society in 1854 and was its president for two years (1883–84).

Dr. Kenyon was a man of acute perception, excellent judgment, and untiring industry. His counsel was widely sought in consultation, both by physician and patient. He passed away while actually practising his profession, as he was attacked while in his office and fell to the floor unconscious just after he had dismissed a patient.

REVIEWS.

A SYSTEM OF OBSTETRICS, BY AMERICAN AUTHORS. Edited by BARTON COOKE HIRST, M.D., Associate Professor of Obstetrics in the University of Pennsylvania, etc. Vol. II. 8vo., pp. 554. Philadelphia: Lea Brothers & Co., 1889.

The second and completing volume of the American System of Obstetrics justifies amply the expectation aroused by the foregoing volume, and furnishes a most satisfactory exposition of modern obstetric science.

The "Diseases and Accidents of Labor" are discussed by Parvin in his comprehensive and facile manner. His treatment of hemorrhage and eclampsia—two subjects of great importance—is especially full and practical. Davis writes on the "Forceps and Embryotomy" clearly and concisely. The most recent views upon the use of instruments during labor are presented, with cuts of the instruments employed. The arguments in the choice of embryotomy and Cæsarean section are impartially given and embrace the latest statistics of various operators. "Premature Induction of Labor and Version" receive full exposition by Cameron, of Montreal. His illustrations are especially good, and his descriptions embrace the procedures most often adopted in foreign maternities.

The topic "Cæsarean Operation, Symphysiotomy, Laparo-elytrotomy, and Laparo-cystectomy," at once suggested Harris as the author most fit to treat it, and the volume is enriched by an accurate and scholarly article from his pen which fully covers all known to the date of writing on these subjects. It is interesting to note that a practical consensus of opinion as to the indications for and relative place of the modern Cæsarean operation exists between the writers of the different articles in this volume which touch upon these points; the extended discussions on this subject, which have gone on for the last few years, have cleared up much that was undecided, and formed an opinion which may guide the practitioner in difficult cases.

Garrigues very sensibly styles his article "Puerperal Infection," and gives a clear and exceedingly practical exposition of the subject. It would be well if Garrigues' plea for his title were allowed and the misleading term "puerperal fever," banished from obstetric nomenclature. His well-known method of antiseptic treatment is fully described and illustrated. The much-vexed topic "The Etiology of Puerperal Fever," receives thoroughly scientific treatment at the hands of Ernst. His conclusions are of such clinical interest that we give them: Puerperal fever is not a specific process, but only one form of an infectious wound disease, always exogenous in origin. It is produced in all cases by living ferments, either by destruction of tissue or mechanical obstruction, or indirectly by production of leucomaines.

Hirst contributes a useful study of "Some Complications of the Puerperal State Independent of Septic Infection," which embraces many conditions frequently met by the practitioner and of great practical interest. The article is illustrated by characteristic temperature curves.

The selection of a neurologist to write upon "Insanity and Diseases of the Nervous System in the Childbearing Woman" is more than justified by Lloyd's interesting article on this subject. "The Newborn Infant" receives very comprehensive medical and surgical attention by J. Lewis Smith and Stephen Smith, of New York, these articles being among the most valuable in the volume. The volume is closed by De Schweinitz, who contributes an interesting account, with illustrations, of the "Congenital Anomalies of the Eye."

SOCIETY PROCEEDINGS.

THIRD CONGRESS OF THE GERMAN SOCIETY OF GYNECOLOGY.

Held at Freiburg, June 12, 13, and 14, 1889.

(Specially reported for THE MEDICAL NEWS.)

(Continued from page 161.)

TWO CASES OF RUPTURE OF THE UTERUS.

DR. KEHRER, of Heidelberg, presented anatomical specimens of a very rare case of uterine rupture which took place in the posterior wall of the uterus. The walls in this region are very thin; this uterus also is divided by a band which reaches down to about the level of the inferior segment of the organ. This case had a contracted pelvis and version was attempted; but on account of this band, a false direction was taken which resulted in rupture of the uterus. He performed Porro's operation and then tamponed the abdominal cavity with iodoform gauze, and the patient was cured without febrile reaction.

DR. WIEDOW, of Freiburg, presented a case in which he had performed Porro's operation; he had to deal with a case of spontaneous uterine rupture in a contracted pelvis; the fœtal sac had penetrated into the abdominal cavity. The patient was cured without accidents.

PLASTIC RESECTION OF THE SACRUM.

DR. WIEDOW presented two cases in which he had done excision of the sacrum. He made a V-shaped incision, the rectum was detached and the sacrum excised with the chain saw up to the periosteum; in this manner he obtained a very extensive operative field. In the first case he had to deal with a carcinoma of the neck of the uterus, in the second with a pyosalpingitis.

DR. HEGAR said that this method allows the surgeon to see exactly what he does; one can see the uterine and utero-ovarian arteries beat under his eyes, and they can be easily ligated, while by extirpation of the uterus *per vaginam* one works entirely in the dark.

ON PERINEORRHAPHY.

DR. SONNTAG, of Freiburg, presented ten women who had been operated on by the methods of Hegar, Freund, Simpson, Tait, Sänger, and Martin. It is not of great importance that the preference should be given to the method of Freund or to that of Hegar; but he thought, however, that in complete rupture of the perineum the method of Freund has the advantage of preserving the posterior column of the vagina, and so consolidating the perineum. In cases of incomplete rupture all methods give good results. In prolapse of the vagina there is an advantage in employing Hegar's method. Out of 256 patients operated upon by Hegar's method in the past seven years, he only had one failure, and in this case an abscess formed in the anterior portion of the wound. Out of six patients who were operated upon by Freund's method, four of them being complete ruptures, one a prolapse, and the other an incomplete rupture; only one

case did not unite by first intention. Simpson's procedure has given him good results in prolapsus; it is not more nor less rapid than Hegar's method, but it is excellent to produce a very strong recto-vaginal wall. Out of eleven cases of complete prolapse he had excellent results in ten cases, and in one case secondary union. In tha cases operated on by Tait's method he had obtained less satisfactory results. He thought that in prolapses, elytrorrhaphy followed by perineorrhaphy is not so reliable as colpoperineorrhaphy.

DR. SÄNGER, of Leipzig, had used the method of perineorrhaphy by flap in seventy-one cases of perineal rupture. In twenty-five cases perineorrhaphy was preceded by anterior elytrorrhaphy, in two cases by elytrorrhaphy, and in twenty cases both these operations were employed. In all cases he obtained, nearly without exception, a reunion by first intention.

For sutures he employed, in all cases but two, silver, the extremities of which were united by a shot. This process will repair all perineal or vaginal ruptures, but its real advantage is seen in perineal ruptures with complete tear of the sphincter ani. The advantage of perineorrhaphy by flap is to preserve cicatricial tissues and to utilize them for strengthening the perineum. The rapidity of the cure by this process is due to the fact that the skin of the perineum is brought into apposition with the labia majoris, and we know that the union of skin is much more rapid than the union of mucous membrane.

DR. KÜSTNER, of Dorpat, said that tears are usually produced on one side only, and in that case he did not see the advantage of the method by flap; he thought that we ought to choose the method most appropriate to the case which presents and try to restore the parts as near as possible to their natural condition. By Hegar's method, with time, there is produced a depression in the level of the perineal sutures, which is the result of the forced coming together of the lateral parts of the perineum.

DR. HEGAR said that by complete rupture of the perineum, he meant a rupture with a complete tear of the recto-vaginal wall. Sänger has a very large series of complete ruptures of the perineum. He wondered whether he, by complete rupture, meant the same. The method by flaps cannot restore the natural parts; he unites flaps which were not formerly in relation to each other, and this great displacement in a perpendicular direction determines a great tension of the perineum. By the other methods patients will rise after twelve days. Kustner says that by the speaker's method a depression on the perineum is left near the vagina; he found that this depression does not really exist. If one is not careful it can be produced by the vaginal touch; but if one practises at the same time the rectal and vaginal touch, he finds that the depression does not exist.

ON EXTRA-UTERINE PREGNANCY.

DR. VEIT, of Berlin, said that, from an operative point of view, we must divide extra-uterine pregnancies into the pedicellated and non-pedicellated forms; those in which we can completely extirpate the sac, and those in which we cannot. During the first months extra-uterine pregnancy is easy of operation. Extra-uterine ovarian gestation is liable to the same operations as other ovarian tumors; in extra-uterine pregnancy of the tube, rupture of the sac is to be feared; this rupture can be unilateral, and can take place between the layers of the broad ligaments; in such a case there is no danger during the first five months of gestation. For the operation for extra-uterine pregnancy in the first months, the operative procedure consists in ligating the two extremities of the Fallopian tube and the broad ligaments, and then excise; in the majority of cases the diagnosis can be made, but not very absolutely; the careful examination of the uterine mucous membrane to see whether or no there exists a decidua is very important. The symptoms of rupture of the sac are those of labor, hemorrhages which can produce themselves during the life or after the death of the embryo; the pains are not always constant. By the touch, one feels on one side of the uterus a tumor which is easily recognized to belong to the tube, of soft consistency, without fluctuation or tension. There might, however, be some tension in the sac, with a hard feeling when there is a clot. The decidua can detach itself in the third month and give rise to hemorrhages without the embryo suffering from them.

As for the treatment, we have electrolysis, morphine, or an operation. He did not attach great importance to electrolysis; it gives pain, and may be the cause of rupture of the sac. Morphine is an excellent palliative treatment which brings on absorption of the ovum, but notwithstanding the results obtained by injections of morphia into the fœtal sac, he preferred laparotomy.

Tait has had two cases of death out of forty-three cases of extra-uterine pregnancy; in those two cases he had to deal with a case of rupture of the fœtal sac. The speaker had operated on fifteen extra-uterine pregnancies, twelve without rupture of the sac, three with rupture of the sac. Injections of morphine in the beginning of extra-uterine pregnancy is dangerous, for the ovum can rupture at the moment of the injection, and out of his three cases of rupture of the sac he had saved only one patient; in those cases of rupture one feels nothing in the abdomen; and, on the other hand, it is a dangerous proceeding to compress the little tumor, as we are liable to break it.

DR. WERTH, of Kiel, said that the passage of the ovum between the layers of the broad ligaments can take place without producing a solution of continuity in the tissues. He had observed a case in which the fœtal sac had passed through the broad ligaments without there being rupture or hemorrhage. Schuchardt had published a case in which the placenta penetrated through the connective tissue of the broad ligaments and determined a bloody infiltration under which the fœtal sac was buried. Olshausen had found such a case, which he operated upon six days after the rupture of the sac and obtained a living child.

In the last few years he had had to treat nine cases of extra-uterine gestation, with a mortality of 22 per cent.; the non-pedicellated extra-uterine pregnancies are very difficult to remove entirely, yet one cannot leave in place the embryonal sac in a state of putrefaction.

When it is necessary to operate, which is the best method to be used, laparotomy or the vaginal method? Hermann prefers elytrotomy; when there is pus or putrefaction he removes the placenta of the fœtal sac. In a case of intra-ligamentous pregnancy, Breisky succeeded in extirpating the fœtal sac, and he obtained a living fœtus; it is well to remove the placenta at the same time as the fœtus. One must not try to obtain a living child, but rather think of the dangers to which the mother is

subjected. He considered dilatation of the uterus as a radical method to destroy the fœtus.

DR. OLSHAUSEN, of Berlin, had operated lately on five cases of extra-uterine pregnancy, two in which the normal term of gestation had passed, and three in the last month of pregnancy. He obtained two living children and one dead. Twice he succeeded in removing the placenta, and once he made drainage; twenty-eight days after the operation the placenta became detached; in this last case, the child was free in the abdominal cavity and the woman had had pains. He, at first, could not find the membranes; finally, he found them with the placenta in Douglas's cul-de-sac, and he ligated them all together. He thought that in cases of extra-uterine pregnancy one always finds a decidua, which he must not mistake for a menstrual decidua, which is only composed of fibrin. He had seen a woman who for years would lose at each menstrual period such a membrana decidua.

UTERINE RETROFIXATION.

DR. FREUND, of Strasburg, said that in grave cases of prolapse of the uterus and vagina, complicated with hernia of the intestine, no special operation had been proposed up to date. On the other hand, the methods employed, such as colporrhaphy, perineorrhaphy, extirpation of the uterus, ventrofixation of the uterus, etc., have all proven to be insufficient. In one case of this kind, after having made a large opening in Douglas's cul-de-sac, he sutured the posterior part of the uterus to the peritoneum situated above the promontory, in the neighborhood of the utero-sacral ligaments. He made his sutures below the utero-sacral ligaments, so as not to involve the rectum. He uses this method in deep retroflexions with a large cavity of Douglas. This operation is a rational one, and has its place beside ventrofixation.

ON THE MECHANISM OF ROTATION IN RIGHT OCCIPITO-POSTERIOR POSITIONS.

DR. FROMMEL, of Erlangen, said that he had been trying to find out whether rotation of the head preceded that of the trunk, and by giving chloroform he had observed that occasionally the head turns first, and finds itself in front, when the trunk is still behind.

DR. SCHATZ, of Rostock, thought formerly that rotation of the trunk preceded that of the head, but he now thought that the head always turns forward first.

DR. HOFMEIER, of Würzburg, saw at the Berliner lying-in clinic, a woman who during labor kept the sitting posture; in this case he observed that the trunk first turned forward.

DR. OLSHAUSEN, of Berlin, still believed that rotation of the trunk precedes that of the head.

DR. SCHWARZ thought that there are cases in which rotation of the trunk brings about that of the head.

ON SUTURE IN CÆSAREAN SECTION.

DR. VEIT, of Berlin, lately had performed Cæsarean section on a female monkey in the last stages of pregnancy. He sutured the uterus by separate sutures; at the end of five days he examined the uterine wound and found that the peritoneum had united.

As to the favorable moment to perform the Cæsarean operation, is it to be made when the woman has no pains? He had lately operated upon a woman without her having any pains, and he had not met with atony of the uterus.

DR. BAR, of Paris, had operated in similar conditions, with the same success. Cases have been published where the uterine incision had been made without there being any pains, and in which great hemorrhages occurred from atony of the organ. He thought that the operation ought not to be undertaken before the pains are clearly present.

DR. SÄNGER, of Leipzig, said that the uterine wall of the monkey is very thin and cannot be compared to that of the human uterus. He thought that we ought always to liberate the peritoneum on the borders of the uterine wound so as to bring the two layers in contact.

DR. LEOPOLD had had three cases of death after Cæsarean section, and he observed each time that the peritoneum had united, although he had not dissected this serous membrane.

As to the moment at which the operation is to be performed, he thought that we must never interfere without there being well-characterized pains. He had lately operated upon a woman, who had for six hours slight pains. This woman died from hemorrhage by uterine inertia, yet she had had a very powerful contraction when he removed the rubber band.

ON EXTIRPATION OF THE UTERUS BY ZUCKERKANDL'S METHOD.

DR. FROMMEL, of Erlangen, said that the extirpation of the uterus by the vaginal method is often very imperfect. For this reason Zuckerkandl, of Vienna, proposed to extirpate the uterus through the recto-vaginal septum. To do this, a curved incision starting from the ischium is made, going between the anus and coccyx, the rectum is then freed from its attachments and it is lifted upward; the rectum can be liberated with the fingers alone, no instrument being necessary. In this manner, a very large wound is obtained, through which one can introduce the fist into the peritoneal cavity; the arteries are easily ligated and the large wound allows a free access to the uterus and permits the removal at will of all carcinomatous tissues; the bladder is easily separated from the fundus of the uterus. He thought this operation was quite practicable and of great usefulness in difficult cases; it is also indicated in retro-uterine abscesses.

ON EXTIRPATION OF PELVIC TUMORS BY PERINEOTOMY.

DR. SÄNGER, of Leipzig, said that by the name perineotomy he meant the exposure of the ischio-rectal fossæ by the peritoneum for the removal of cysts, hematomas, exudates or other tumors having their seat in the connective tissue and Douglas's cul-de-sac. A year ago he did such an operation on a woman aged forty-two years, suffering from a retro-rectal and recto-vaginal dermoid cyst. This woman had been obliged in her last six labors to have the help of a physician on account of the great development of the tumor. He made an incision of three inches, starting from the middle of the part separating the right labia majora from the anus and extending beyond this orifice; he penetrated into the pelvis, where he found a cyst having the size of a child's head; this cyst was independent of the ovary. The patient was cured perfectly. Only ten cases of the kind has he been able to find in the literature of the subject.

(To be concluded.)

PHILADELPHIA ACADEMY OF SURGERY.

Stated Meeting, June 3, 1889.

J. EWING MEARS, M.D., IN THE CHAIR.

DR. F. H. GROSS reported a case of

RUPTURE OF THE QUADRICEPS TENDON

above the patella of the left leg. The injury was received March 2d, and the case at once came to the hospital. There did not seem to be any opportunity for applying sutures. There is a fair degree of usefulness, mainly through the accessory tendons of the vasti muscles. It occurred to him that it might be advisable to transplant the lower attachment of these tendons to the region of the ligamentum patella.

DR. NANCREDE had seen two such cases. One was in private practice, and there was admirable functional result. In the second case, also, he presumes that the result was good. The first case was caused by the tongue of a heavy wagon striking the tendon and cutting it subcutaneously.

DR. WILLIAM HUNT desired to record an

ANOMALY OF THE CHEST ORGANS.

which he recently met with at the Pennsylvania Hospital. A young woman looking very miserable and phthisical was admitted with necrosis of the manubrium of the sternum with a sinus leading to the diseased bone. She was in such a weak condition that before operative procedure could be resorted to she died.

On opening the chest it was found that the right lung extended all the way across to the left side, and completely filled the upper and lateral parts of the left cavity. The mediastinum and its contents were pushed out of the way. The heart was held to the left wall of the thorax by adhesions of the pericardium. The left lung was practically gone. The remains of it were not as large as the fist, and there was no breathing tissue in it whatever. There was a vomica present at the apex of the right lung, but whether tubercular he could not say. He thought that in this case the most acute auscultator would have been deceived and would have naturally thought, when listening over the left chest, that he heard the murmurs of the left lung. It might be that one percussing across the front of the chest from right to left, and noticing the continued resonance, would have a suspicion of the condition present. He had never met with a similar case.

DR. NANCREDE called attention to an interesting case bearing on the

TREATMENT OF ACUTE INFECTIVE OSTEOMYELITIS.

It is not often that the surgeon has an opportunity to treat these cases in the early stages, for they are usually found in the medical wards under the head of rheumatism, typhoid fever, etc. We constantly meet with the results of such attacks when they have been partial and the patients have recovered. French surgeons are of the opinion that in the better classes with good surroundings, the disease is often recovered from, but we all know that in the average run of hospital cases among the lower classes, the disease is very often fatal. He could only recall a few cases in his twenty years connection with the Episcopal Hospital, in which the cases were seen by the surgeon in the earlier stages. One was not diagnosticated by the surgeon in charge, and the patient died.

Another case was that of a child sent in practically dying, who for a week or ten days had been treated outside for rheumatism. He made the freest possible incision and tried to treat it antiseptically. That was fourteen years ago. Since then several Russian surgeons, Mr. Keetley, and the French surgeons have called attention to the benefits of free opening of the bone and the removal of the medulla. He had been for some time watching for such a case.

A week ago his attention was called by his Resident to a boy in the Episcopal Hospital who was supposed to have erysipelas of the leg. He had been examined by a medical colleague, who thought it was a sprain. He had been treated outside for rheumatism. He found the temperature between 102° and 103°; the boy delirious, and evidently very ill. He examined the limb and recognized what he considered to be osteomyelitis. He examined it with an exploring needle and found the bone bare in all directions, and pus oozed up through the minute puncture in a steady stream for hours, showing the enormous pressure it was subjected to. Sixteen days before, the boy, who was seventeen years of age—in what has been called the epiphyseal age—had twisted his foot slightly in jumping from a wagon. The next day he complained of what was supposed to be rheumatic pain. On the third day he continued to work, but on the fourth he became ill enough to go to bed, and on the sixth he was brought to the hospital. He saw him on the seventh day. Three hours elapsed before he could gain permission to operate, and in that time the disease progressed upward at least two inches. He exposed the tibia, white and totally stripped of periostium from the lower epiphysis to within three inches of the upper, and trephined over the upper portion of the bared shaft with a large trephine, striking living medulla, although the external surface was white and apparently dead. He then trephined as close as possible to the lower epiphysis, when pus escaped as soon as his trephine pin pierced the compact layer. He trephined two inches above and cut away the intervening bone. He then removed the medulla, which was gray and looked as though it were sloughing in some places. He again trephined higher up and cut the bone between. He also cut away still further, opened a second abscess and cleaned out the medulla. After thoroughly removing the medulla he packed the cavity. The temperature dropped 4° in two hours. To-day it is normal, and the boy is sleeping well and feeling comfortable. He thought that the greater part of the bone would be saved. The boy's life is certainly saved.

He thought that the usual teaching of our surgical text-books is that in such cases the limb should be amputated, although some of them refer incidentally to the operation of trephining, and the removal of the medulla, and say that possibly that may answer. He believed that this will always answer if it is done effectually. He thought that no limb should be sacrificed until this is tried. It is so rare that the surgeon sees these cases at an early period, that he thought it worth while to report this case.

(To be concluded.)

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, June 20, 1889.

THE PRESIDENT, ALFRED L. LOOMIS, M.D., IN THE CHAIR.

DR. A. JACOBI read a paper entitled

NOTES ON THE BAKING OF BACILLI.

He said that of late the inhalation of dry hot air in pulmonary tuberculosis had received considerable attention. Having made some remarks strongly condemnatory of all patented apparatuses and processes in medicine, he said that the patented apparatus of Dr. Louis Weigert, who is said to have been graduated in New York, but is now a resident of Berlin, was not very perfect in its mechanical construction, and was at the same time very expensive.

The attention of the profession was first directed to the use of dry hot air in consumption by Dr. Louis Halter, in an article published in two numbers of the *Berliner klinische Wochenschrift*, in September, 1888, and accompanied by a drawing of an apparatus which he had devised. His attention was first drawn to the matter by the exemption of lime-kiln workers from phthisis, and his observations, extending over a period of fifteen years, were made in Westphalia, where this disease was very prevalent among the general population. The air about the ovens is quite dry and very hot, the temperature usually ranging from 122° to 158° Fahrenheit. Such air must, therefore, be for the most part free from tubercle bacilli, which, it has been established, die at a temperature of from 140° to 149° F. The air about the lime-kilns is also greatly rarefied, and it has the effect, in the case of new operatives, of increasing the body temperature two and a half degrees above the normal, while the pulse is raised from 120 to 160, and the respirations to 20 to 30 to the minute. Old hands, however, perspire very freely, and feel perfectly well.

Another paper on the inhalation of dry hot air in phthisis was also published in the *Berliner klinische Wochenschrift* in September, 1888, by Dr. E. Krull, and this was likewise accompanied by a representation of an apparatus devised by the author. It was not until December, 1888, that Dr. Louis Weigert published an account of his apparatus in the New York *Medical Record*, and in his communication he made no mention whatever of the articles by Drs. Halter and Krull. About the same time he also exploited his apparatus in the public press; proclaiming that consumption was entirely curable by his treatment, and that he was the equal of Koch by reason of his great invention.

Dr. Jacobi then went on to say that he had used the Weigert apparatus to a considerable extent in his wards at Bellevue Hospital, and that the results had not been at all satisfactory. It was true that in many of the cases more or less improvement was noted while it was being used; but it was a well-established fact that patients that came to the hospital with phthisis, except the disease was in the last stages, improved for a time after entrance, on account of the nutritious diet and the rest and freedom from worriment afforded them. He found by repeated observations that the temperature of the air to be inhaled from the apparatus was always many degrees lower by the time that it had passed through the tube conveying it to the mouth of the patient than it was when it left the cylinder in which it was heated. In addition, the temperature of the air was further reduced in the pharynx and trachea, and when the proportionately small amount remaining finally reached the great volume of the blood, and was diffused over the extended surface of the lungs, it was still more cooled down. The expired air was, in fact, warmer than the inspired air. When it was remembered, furthermore, that the bacilli were located and multiplied deep in the tissues, it seemed hardly probable that they were disturbed at all, it was not even likely that the soft lung tissue could be heated above normal, while neither the pulse nor the general temperature of the body showed any alteration. It was evident, therefore, that in order to destroy the bacilli, something more was required than the inhalation of hot air in an ordinary room. The temperature of the apartment in which the inhalation was given ought to be at least 105°. The temperature to which the men working at the lime-kilns mentioned by Halter were subjected, varied from 106° to 158°.

Both the hot inhalations and the hot room, however, find their contra-indications in all cases where the patients were weak or liable to hæmoptysis, and could only be employed with safety, therefore, where the patient was comparatively robust. Dr. Jacobi believed, consequently, that this method of treatment should be resorted to only in the very earliest stage of phthisis. In the cases in which he had used the hot inhalations, other causes, as he had mentioned, would account for the improvement noticed, where any improvement followed. In a few he found it difficult to control the cough excited by the treatment, and in two instances it caused so much vomiting, with other disagreeable symptoms, that the patients were decidedly better after stopping the inhalations.

Then followed a

PRESENTATION AND DESCRIPTION OF THE PLANS OF THE NEW ACADEMY BUILDING,

by Mr. R. H. Robertson, the architect. The lot on Forty-third Street, near Fifth Avenue, upon which it will stand, is seventy-five feet wide and one hundred feet deep, and it is designed to have the structure as complete as possible in every detail. It will be five stories in height and will also have a gable story, and the materials used in the front of the building will be brick and Long Meadow stone, both rock-faced and dressed. The kitchen and janitor's apartments will be in the basement. On the first floor are the committee-room, coat-room, and meeting-room (the latter 36 x 26 feet) in front, and in the rear a large assembly room, 57 x 42 feet, and a dining-room 31 x 26 feet. These two rooms are separated by a rolling partition, and they can be thrown into one at any time when required for large meetings or a largely attended dinner. One and a half stories are taken for this part of the house, and the rooms are twenty-six feet in height. On each side are air-shafts, and by means of a glass arch a flood of light is let in at the end of the rooms. The half-story in front of the building, which is eleven feet high, is to be used for committee-rooms, etc. The next story will contain the reference library and the stack-room, which occupy a story and a half. In the front there will also be three reading-rooms of less height. The full capacity of the stack-room will be for 230,000 volumes, to accommodate which there will be three tiers

of stacks. At first, however, but a single tier will be necessary. The next floor will be taken up by four section rooms, each with an ante-room and specimen or apparatus-room, and accommodating respectively 160, 125, 125, and 110 persons. On the top story, which will not extend over the whole of the building, will be a microscope-room and the librarian's apartments, and the rest of the space will be devoted to an open deck, which will probably be fitted up as a summer garden.

THE PRESIDENCY OF THE NEW YORK BOARD OF HEALTH.

DR. WALTER MENDELSON introduced the following resolutions:

Whereas, The Board of Health, being a department of the city government in which every member of the community is most personally and vitally interested, and being one where it is absolutely necessary for true efficiency that the presiding officer be acquainted with sanitary science and have a knowledge of the laws of health and of diseases; and,

Whereas, The medical profession, as guardian of the health of the members of the community, is being brought into almost daily contact with the workings of the Board of Health, and is therefore especially interested in its efficiency; and

Whereas, The Mayor of the City of New York has recently appointed to the Presidency of the Board of Health one whose previous experience no wise justifies the belief that he is at all fitted to assume the grave responsibilities of the office intrusted to him; therefore be it

Resolved, That in the opinion of the New York Academy of Medicine, the appointment of any one not specially qualified is fraught with possibilities of the gravest danger to the public health; and, furthermore, that the Academy of Medicine, having at heart the public good, urges the Mayor to reconsider the appointment made, and, after due consideration with those acquainted with the duties of the office, make a new appointment better suited to the important nature of the department.

On motion, the resolutions were referred to the Council of the Academy.

The Academy then adjourned until the first Thursday in October, and the exercises were concluded with a collation and social re-union.

CORRESPONDENCE.

A WINTER VACATION TO THE WINDWARD ISLANDS.

II.

OUR voyage down the Islands was the perfection of ocean travel. The "Barracouta" steamed by night and laid in port in the daytime, discharging at each place the packages of pork, flour, cheese, and various other things that sustain the life of man. The States feed the Islands, but that is all we do for them. They will have nothing else of us, as we bear a bad reputation among them. A planter told me that the freight on an 80-horse-power boiler was $500 from Glasgow. "Why did you not get it from the States at a less price and at half the freight charge?" I asked him. "Oh!" he said, with the air of a man who was stating a fact perfectly well known to me, "you do not make them so good or strong in the States." A merchant at Trinidad informed me that he formerly bought cotton goods and prints from us, but he was obliged to stop trading because we did not pack our goods securely, while the cases made in England were strong and did not break open and expose the contents. I am unable to conceive of any better proof that manufacturers who are nursed on high tariff become careless and bad workmen. We have one product that murderous legislation cannot touch—our food products. We can feed the world; but even here our "policy" has laid its crushing hand. Our tariff methods have swept our merchant navy from the seas, and all that we export has to be carried in foreign bottoms.

Meanwhile we were steaming on our way to St. Kits. The Caribbean Sea was as gentle as a dove, and flashed in the sunlight with a deep prismatic blue. We were gliding past islands that laid like gems upon the moving sea; some near, some far, all wrapped in purple mist. At one time we had in view St. Martin, St. Bartholomew, St. Eustatius, and Saba. The haze that laid upon the sea-line hid the bases of those mountainous islands upon which they seemed to float as thin as mist. We passed close under the southern end of Saba, the ship under half speed, as this is one of the sights of the Islands. Saba is a mountain rising in a vast precipice upon every side to the central mass, nearly 4000 feet high. A few red-tiled houses were huddled together here and there, some of them hanging on by their eyelids, as it were, to the edges of the cliffs, with nothing beneath them but the air and the crashing surf. The higher peaks were shrouded in the clouds, fragments of which clung to the sides and drifted down the gorges. We were so far away that we could see the silver lining to the clouds. Masses of vapor were piled up against the sun in dazzling whiteness, making the green gorges luminous in the creeping mist. On the side turned from the light, there was inky blackness with slanting streaks of rain, as though Saba in mountain, precipice, and riven glen had turned her face from the sun and wept in darkness. The effect was weird and strangely beautiful. I gazed as it receded from us until my eyes ached, while the island became a mere film of color on the distant sea.

Saba is a Dutch possession, with a scanty population, cut off from the fellowship of man. Strange to say, the industry of the island is ship-building. The graceful little schooners of sixty, or a hundred tons, so frequently met with among the Islands, are built here and lowered down the cliffs with ropes. It is a paradise for the doctor. He is the great man of the village. All who meet him take off their hats, and when a goat—the only animal on the island—is killed, a choice bit is always sent to him. We saw Saba on our return voyage in the glare of an afternoon sun and without the magic of its clouds and purple mist. It appeared naked and hideous. Paths could be seen to zigzag up the face of crazy-looking cliffs; here and there a few houses were perched upon bare rocks that quivered in the heat. It looked more fit for the abode of the damned than that of poor living humanity.

Had we seen St. Kits first we probably would have found nothing to criticise; but we had seen St. Croix and had fixed our standard of insular perfection. We set up the camera in various places about Basseterre, as the town is called, but the town was too English and conventional to be picturesque.

Night again found us steaming down the Islands over a gentle, phosphorescent sea. The trade wind was blowing from the northeast as steady as though manufactured by machinery. Nothing could give a more perfect example of earthly comfort than these nights at sea. We all studied astronomy under the stimulus of strange constellations. Orion and the Southern Cross were always subjects of interest; and which was the true cross and which the false one was forever being discussed and never settled. All the stars shone with great brilliancy, and owing to the excess of moisture in the air, twinkled like flash-lights. Venus ruled the sky, as the moon rose late, and was exquisite in her radiance. She came up about dark, and from then until near the zenith, she trailed her way over the restless water in a line of silver reflection that was lost in the faintly luminous mist that closed in the sky-line like a pathway from earth to heaven. A thing that one misses almost with a sense of personal loss is the absence of our northern twilight. Here the sun goes down with a quick burst of glory, and by the time the last segment has dipped below the sky-line night has closed down and blotted out every fragment of color from the western sky.

In the morning we were in port at Antigua. The town and bay were beautiful. Masses of irregular hills and cone-shaped mountains enclosed the bay. We were obliged to cast anchor about three miles from the shore, and had a rather rough passage in the boats of the negroes that lay about the steamer clamoring for passengers. Antigua is one of the oldest settled of the English Islands. The town, like those in most of the Islands, had little to attract us, and we made it a custom to hire carriages and ride into the interior. Here I remember we visited an old sugar estate conducted on a method of one hundred years ago. The motive power was a windmill; the rollers being placed below in the circular stone tower that carried the sails. Surrounded by palms it made a most exquisite picture, and I succeeded in getting a good negative of it. If the wind slacked while the rollers were choked with cane, the hands sat down and waited for the wind.

Everything about the place was on the same primitive model, yet the owner was quite content, caring nothing that the next estate, run by a rich company, had an 80-horse-power engine, vacuum pans, and a centrifugal drier. He was quite a young man, but he was an antique, a specimen of a race fast disappearing—the Creole English. He was thin to emaciation, dark as a mulatto, but every line of face and form indicated that he was pure white. There was a lethargic droop to the man that typified the hopeless struggle against fate that his race is making all over the world under hostile climate and environment. Among the hands about the sugar house we saw a magnificent specimen of a negro girl, who, in contrast to Mr. F., demonstrated the inexorable laws that govern the race-distribution of man. Under the conditions in which the white race exists in the tropics, there are developed forces which inevitably tend to extinction. It required just four generations to reduce the white man to the state we found him in. By the side of this decayed specimen of a noble race stood this magnificent girl. She was not more than half clad, revealing a skin as fine as silk, beneath which the slender muscles, hard as iron, played like serpents. Her waist was almost small enough to span, with a grand swell to her hips, tall, and straight as a bamboo, with a graceful sinuous movement as she raised a large tub of sugar to her head and carried it off with the ease of a trained athlete. Her shoulders and bust were splendid, modelled like an antique bronze. She was an emotion in ebony. Mr. F. told us that his sugar boiler, a white man, had taken her.

Here on this old plantation we have the whole story of the West Indian problem of to-day told with the force of a parable. The extinction of the white race, the exuberant vitality of the negro and the growing curse to the population, the negro half-breed. All these beautiful islands are in a state of material decay, and striking back, as the breeders say, into barbarism. England does not know what to do with them. She is trying the experiment of self-government, and if she succeeds it will not be many generations before we have the story of Hayti down the Islands to the South American coast. The negro under his natural climatic conditions cannot govern himself without drifting back into savagery.

Antigua is one of the most beautiful islands in the chain. The mountains are bold and precipitous, giving an exquisite sky-line as you approach it from the sea. Its fertility is not exceeded by any of her sister islands, so that we had here a profusion of beauty in tropic coloring and foliage. It was a matter of regret among us that the inexorable demands of trade obliged us to leave with only this glimpse of Antigua; but the next day we were more than repaid when morning found us lying snugly at anchor off the quaint old town of Plymouth, with the wonderful mountains of Montserrat casting their solemn shadows over us. Into these mountains we could gaze through the defiles which penetrated their rugged sides. The principal peak, ages past, had suffered an enormous fracture into its side which gave us a view of what appeared the interior ot a crater. It appeared nearly inaccessible, and with the clouds, black and threatening, twisting over the rugged edges of the abyss, one never grew tired watching it and silently questioning the mystery of its depth.

In this little island there were enough of mystery and hatred hidden in its old-time history to populate a world. Montserrat was an English penal colony to which she deported Irish patriots after the "forties." Here they were let out to the planters and labored on the sugar estates. But time works its own revenge—to this day it is an Irish island. The Murphys, O'Briens, Sullivans, and other good, old names are heard everywhere, while the owners of these names are of all shades of color, ranging from the pure white of the Celt to the dull black of the African.

Plymouth is a walled town, and although the old fortifications are fast falling into ruins, enough remains to show that it was well able to take care of itself in the freebooting, buccaneering times. Every old house appeared to be a fortress, standing in the midst of a garden enclosed by thick stone walls. Between these walls ran irregular narrow streets, paved with large, flat stones, and overtopping them and shading the way were forests of palm, cocoanut, and breadfruit trees, broad-leafed plantains and weird, snake-like cacti. One of the streets near the landing was so quaint with its battered old walls, the palms and the broad leaves of the banana leaning over from the gardens within, and here and there a tower or picturesque gable, that I went back to photo-

graph it, and found the sun shining directly into my lens. I again visited the spot on my return, and had the good fortune to get an excellent negative.

Captain Hubbard, who always had the pleasure and comfort of his passengers in his care, gave us a picnic in a woods about two miles from town. We could secure carriages for the ladies only, and most of the gentlemen were obliged to walk. I never walked so far before under as hot a sun, and felt quite proud that I suffered as little as any one in the party. A thermometer went up to over 100°, but we would not allow the owner to state the exact figures for fear of the moral effect, as one of the party said. On the whole it was a very enjoyable affair. Several young English creole ladies joined the party. They were beautiful and well educated, with a very refined manner. I noticed the peculiar accent with which they spoke English. A very broad sound is given to the vowels, the words are drawled with something like an Irish brogue. This is to be noticed throughout the Islands, but its best examples are to be met with at Montserrat. We again at nightfall steamed away, and I shall never forget the night on deck after Montserrat. It was too enjoyable to lose any of it by turning in below, and nearly all the party stayed up till the small hours.

One of the sensations of this voyage was that of enchantment. At night you went to bed in one country and in the morning found yourself in another without any sense of a journey from place to place. Each island had its individuality. Customs, manner, accent, scenery, and products all gave a measure of difference sufficient to realize that you were among another people in another land. A vivid novelty, a feeling of expectancy, kept the mind alert and the body active without fatigue. During the evening Mr. H., a merchant of large enterprise and thoroughly familiar with the West Indies, and especially with Martinique, told a story, that, true or not, was so full of potential romance that we were strongly impressed with it.

Everyone knows that Martinique was the birthplace of the Empress Josephine. The Pagerie family still have estates there, and the old house in which she was born and the church with the baptismal records are shown to visitors. The daughters of the family of that generation all possessed great beauty, and a sister, younger than Josephine, excelled them all. After the marriage of the latter with Napoleon, a family council, in the hope of improving their reduced finances, determined to send the last daugher of the race to France to share in the brilliant fortune of her sister. She embarked for the port of Marseilles, and that was the last heard of the ship or of her beautiful freight. Years passed, and at last the news reached Josephine, while still at the side of Napoleon as Empress, of the strange and romantic history of her sister. The ship had entered the Mediterranean and was near her destination when she was captured by Barbary pirates. Passengers and crew were taken to an African port and exposed for sale as slaves, the beautiful Mdlle. de la Pagerie amongst the rest. The story of her marvellous beauty was so noised about that none of the dealers dare purchase her, for fear that the possession of a woman of such miraculous beauty would excite the jealousy of some more powerful Turk and cost the unfortunate owner his head. At last the fame of the beautiful captive reached the ears of the Sultan himself. A trusted agent was dispatched for her, and she was taken to Constantinople and disappeared in the Seraglio. From a slave girl she became Sultana, embraced the faith of the Prophet, and all the Sultans of Turkey since are descendants of the sister of Josephine, who was ruling in the land of her captivity, as near as a woman can rule in that polygamous land, while poor Josephine was enduring the humiliation and misery of a discarded wife.

This story is told in Martinique and firmly believed there. Mr. H. believed it, and relating it with all the embellishments and art of a good story-teller, held us entranced for nearly an hour on this night after Montserrat.

ELY VAN DE WARKER.

NEWS ITEMS.

The Hoagland Laboratory.—The Trustees of the Hoagland Laboratory make the following announcement. Dr. George M. Sternberg, U. S. A., will continue as General Director of the Laboratory. George T. Kemp, Ph.D., Johns Hopkins University, will be Associate Director of the Departments of Physiology and Experimental Therapeutics. Dr. B. Meade Bolton has been appointed Director of the Department of Bacteriology, and will assume charge of that department in September.—*The Brooklyn Medical Journal*, August, 1889.

Typhus Bacilli in Water.—Several cases of typhoid have recently occurred in a town in the Province of Baden, Germany, and it came to light that three of the patients first affected procured their drinking water from the same well. The water was then examined, the strictest precautions being used to prevent infection from other sources. In three days the cultures were found to have developed on an average one hundred and forty thousand colonies to the cubic centimetre (about one-half cubic inch). Ten tests had been made, but only in one of these was there found a single colony of typhoid bacilli. —*Deutsche med. Wochenschrift*, July 4.

Vermont State Insane Asylum.—We learn from the *Boston Medical and Surgical Journal* of July 25th that Vermont is about to build a new State Insane Hospital at Waterbury. Five hundred acres of land have been purchased, of which thirty acres, in the vicinity of the Central Vermont R.R. Station, are to be used as a building site. The complete plans contemplate a three-story brick building, having a frontage of 900 feet. There will be a central administration building. The main building will consist of two wards, one for men and one for women, connected on each side by a corridor one story high. In each wing will be three two-story circular wards for the chronic insane. Each ward consists of a day room on the first floor, and a dormitory for 25 patients. There will be a general hospital ward, three stories high and 150 by 36 feet in size, with a capacity for 75 patients.

Italian Institutions for Rabies.—We learn from the *Lancet* of July 13th that Bologna, following the example of Milan, opened, on June 30th, an "Instituto Anti-rabbico," or institution for the treatment of rabies on the Pasteur method. The King, the Prime Minister, and the various civic and scientific bodies, as well as the townsfolk of Bologna, contributed the requisite funds. Every

considerable Italian city will soon, it is anticipated, be provided with an institution of the kind.

The Promotion of Illegitimacy in Vienna.—In connection with the obstetrical department of the hospital, and in the hope that the system would prevent induced abortions among the lower classes, the following plan was adopted some years ago: Any woman can enter the hospital, masked or not, as she desires; be known only by a number; live according to one of three grades—the cheapest costing about thirty cents a day; be attended in labor by skilful accoucheurs, and leave the hospital when she desires, with or without the child. If without the child, it is given a number, by which the mother can reclaim it even after years. When not reclaimed, the child, if a boy, is brought up as a soldier; if a girl, as a nurse. The only condition required of the mother is the payment of the small living fee (thirty cents a day), and enclosing her name and address of friends in an envelope to the secretary of the hospital, which is only opened in the event of her death while in the hospital. If all goes well, on her departure from the hospital it is returned to her unopened. This plan has, indeed, decreased the abortions and increased the population of Vienna, but it has also removed another check on free intercourse—the fear of becoming pregnant.—*The Medical Record*, June 15, 1889.

Rejected Contributions.—Medical editors are usually so glad to receive contributions that, whenever they feel obliged to reject a communication they do it in the gentlest manner possible, so as to discourage contributors as little as may be. It is, therefore, a matter of astonishment to read the reply which the editor of the *Medicinische Monatsschrift* makes to a contributor whose article does not please him. The unfortunate woman whose communication called forth the editorial strictures must indeed be thick-skinned if she was not hurt by the following, taken from the "Briefkasten" of the May number of the *Monatsschrift:* "Frau Emilie S., Buffalo, N. Y.: Your work on the 'Prevention of Yellow Fever and the Improvement of the Healthfulness of the Southern States,' we have returned to you as it is. Your ideas are not new and your way of writing not entirely correct. We do not know what is more to be regretted, the paper, the ink, the postage-stamps, or—a woman who knows no other way to improve her financial position than to discharge the cobwebs of her brain upon unsuspecting and harmless editors. Give up writing and take in hand the darning-needle and the coffee-pot; it is to be hoped you can work better with these useful objects than with the pen and the eucalyptus tree."—*Northwestern Lancet*, June 1, 1889.

A Submarine Expedition.—We learn from the *Lancet* that from Kiel will shortly sail an expedition to explore the submarine flora and fauna of the ocean, under the supervision of DR. HENSEN. The expedition, which is to last for several months, has been subsidized by the Emperor William to the amount of 80,000 marks. A special subject of investigation will be the effect of light on the oceanic fauna, and Dr. Henson, it is understood, will undertake a series of experiments with this object by means of a novel application of the electric light.

Pilsner Beer as a Diuretic.—DR. ADOLF GRUSS reports the following to the *Wiener klin. Wochenschr.*, June 14th. A female patient, aged seventy-four, suffering from valvular and mitral insufficiency, had for three months been treated with various diuretics without avail. The amount of urine excreted in twenty-four hours was only ten to seventeen fluidounces. The patient asked for Pilsner beer. Glad that she should evince a desire for nourishment, her wish was at once complied with. The first day she drank about ten fluidounces. To Dr. Gruss's surprise, on the same day, the excretion of urine increased to forty-four fluidounces. No other diuretic had been given for several days. It soon became manifest that as soon as she stopped taking the beer the excretion of urine again fell to eighteen or even ten fluidounces, but at once increased to forty-four fluidounces when the treatment was again resorted to.

Since then Dr. Gruss has prescribed Pilsner beer in many emphysematic patients suffering from hydrops, and its use has always been attended with marked success.

An Antidote for Phenic Acid.—The *Rev. de Thêr. mêd.-chir.* of June 15th recommends common soap as an efficient antidote in cases of phenic acid poisoning. The soap should be given as soon as possible after the poison has been taken, and continued until all toxic symptoms have disappeared.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM AUGUST 6 TO AUGUST 12, 1889.

By direction of the Acting Secretary of War, leave of absence for two months, on account of sickness, with permission to leave the Division of the Missouri, is granted ALFRED A. WOODHULL, *Major and Surgeon*.—Par. 5, *S. O. 178, A. G. O.*, August 3, 1889.

JANEWAY, JOHN H., *Major and Surgeon*, is hereby granted leave of absence for two months, with permission to apply for an extension of two months.—Par. 3, *S. O. 52, Headquarters Division of the Pacific*, July 29, 1889.

By direction of the Acting Secretary of War, WILLIAM B. BANISTER, *First Lieutenant and Assistant Surgeon*, is relieved from further duty at Fort Wingate, New Mexico, and will report in person to the commanding officer Fort Grant, Arizona, for duty at that station, relieving ARTHUR W. TAYLOR, *Captain and Assistant Surgeon*, who, upon being so relieved, will proceed to Fort Wingate, New Mexico, and report in person to the commanding officer thereof, for duty at that post.—Par. 4, *S. O. 178, A. G. O.*, August 3, 1889.

By direction of the Secretary of War, JOHN J. COCHRAN, *Captain and Assistant Surgeon*, now on duty at Fort Adams, Rhode Island, will report in person to the commanding general Department of the Platte, for temporary duty with troops en route to and at the summer camp at Fort Robinson, Nebraska. Upon completion of this duty, he will return to his proper station.—Par. 10, *S. O. 180, A. G. O.*, August 6, 1889.

By direction of the Secretary of War, the leave of absence granted WILLIAM C. GORGAS, *Captain and Assistant Surgeon*, in S. O. 84, July 3, 1889, Department of the Missouri, is extended two months.—Par. 2, *S. O. 182, A. G. O., Washington*, August 8, 1889.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

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